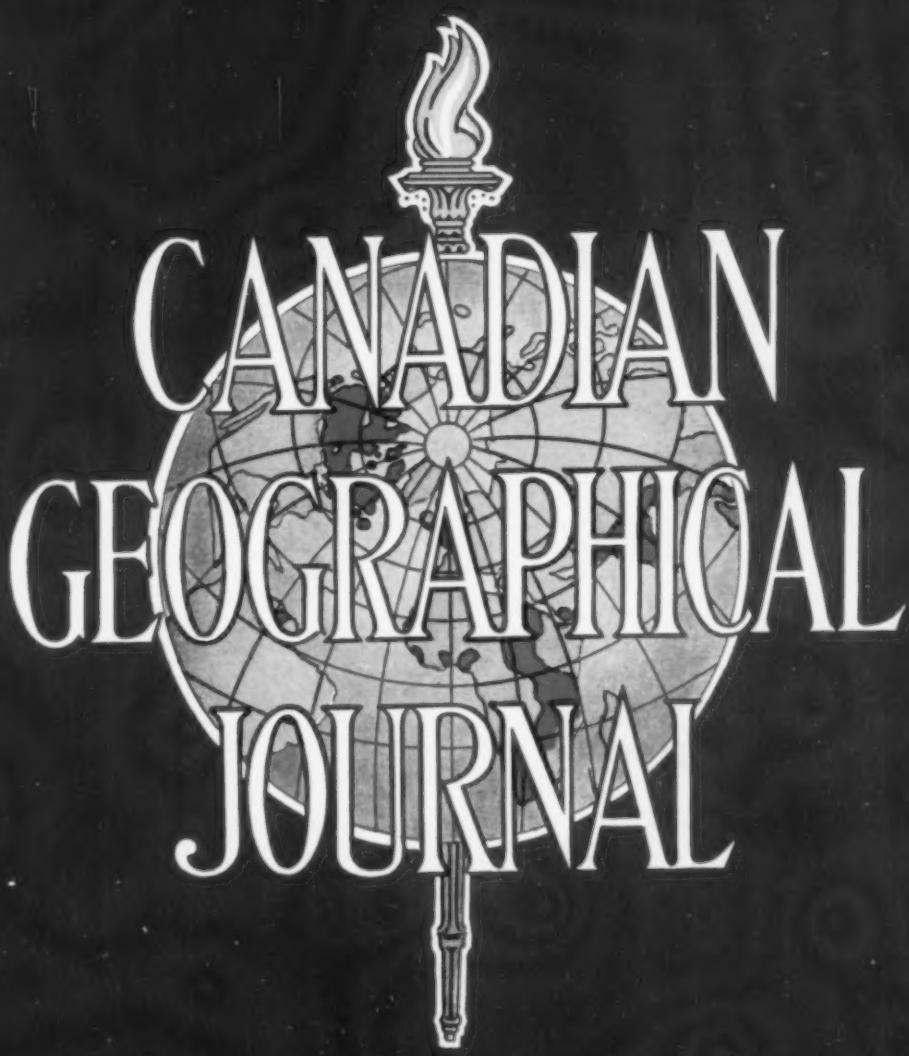


APRIL, 1934

VOL. VIII., No. 4



A large, stylized torch with a flame at the top is positioned above a globe. The globe is depicted with a sunburst at the top and latitude and longitude lines. The words "CANADIAN GEOGRAPHICAL JOURNAL" are written in large, white, serif capital letters across the center of the globe.

CANADIAN GEOGRAPHICAL JOURNAL

In This Issue

OLD TRAILS TO THE ARCTIC
By Philip D. Godsell

BURIED CITIES OF CEYLON
By Lillian Chambers

MORE CANADIAN WILD FLOWERS
By William H. Brigden

MELBOURNE
By Mary Cecil Allen

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Published monthly by

THE CANADIAN GEOGRAPHICAL SOCIETY

EDITOR

LAWRENCE J. BURPEE

Ottawa, Canada

PUBLISHER

GEORGE A. MACKIE

Fifth Floor • Sun Life Building • Montreal

April, 1934

Entered as second-class matter at the
Post Office, Montreal, Canada

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		FOLIO
Old Trails to the Arctic	- - - - -	PHILIP H. GODSELL
Buried Cities of Ceylon	- - - - -	LILIAN CHAMBERS
Some More Canadian Wild Flowers	- - - - -	WILLIAM H. BRIGDEN
Melbourne	- - - - -	MARY CECIL ALLEN
		151
		163
		171
		183

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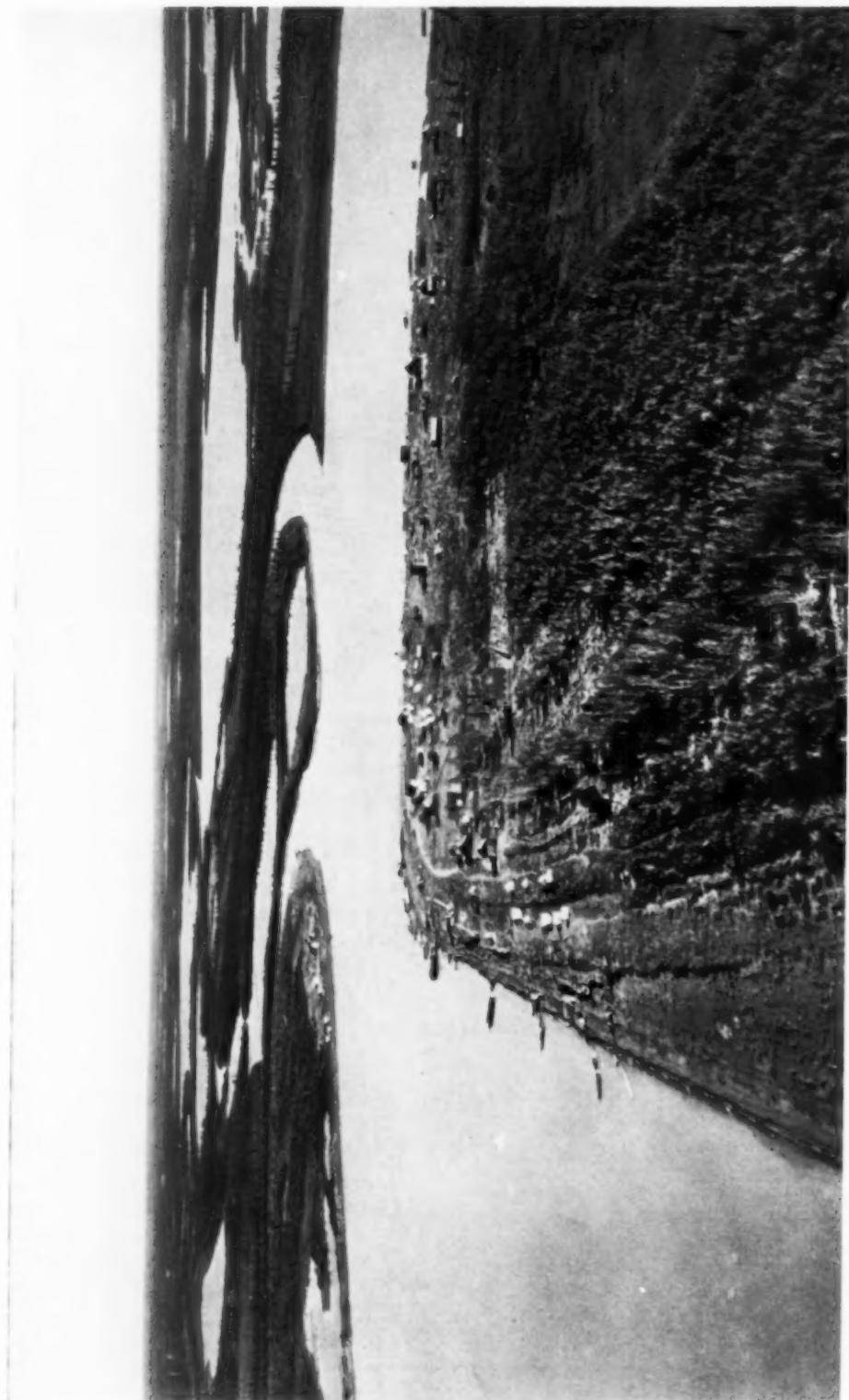
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Membership fee is \$3.00 per year in Canada and other parts of the British Empire, which includes delivery of the Journal, postpaid; in United States and Mexico, \$3.50; in other countries \$4.00. Make membership fee payable at par in Montreal.



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Aklavik, the little metropolis of the Canadian Arctic, near the mouth of the Mackenzie.

Old Trails to the Arctic

By PHILIP H. GODSELL

AT the little frontier settlement of Waterways the commodious "Athabaska River" awaits her load of passengers and freight, brought up from Edmonton by rail, and a few hours after the train's arrival three shrill blasts of the whistle announce her departure for the North.

As the steamer noses her way down the shallow limpid waters of the Clearwater into the wide stretches of the heavily-wooded Athabaska the little town of Fort McMurray can be seen perched like a sentinel upon its lofty forested banks. Here and there along the shores are small log cabins and an occasional tepee, homes of the trappers and Indians who wrest a living from the wilderness.

The first stop is at the wood-pile, and for two hours pandemonium reigns as the half-breed crew proceed to wood up to the accompaniment of exuberant yells, cries, snatches of song and the thud-thud-thud of logs as they roll down the chute and hit the deck, making sleep and rest impossible until the boat is again under way.

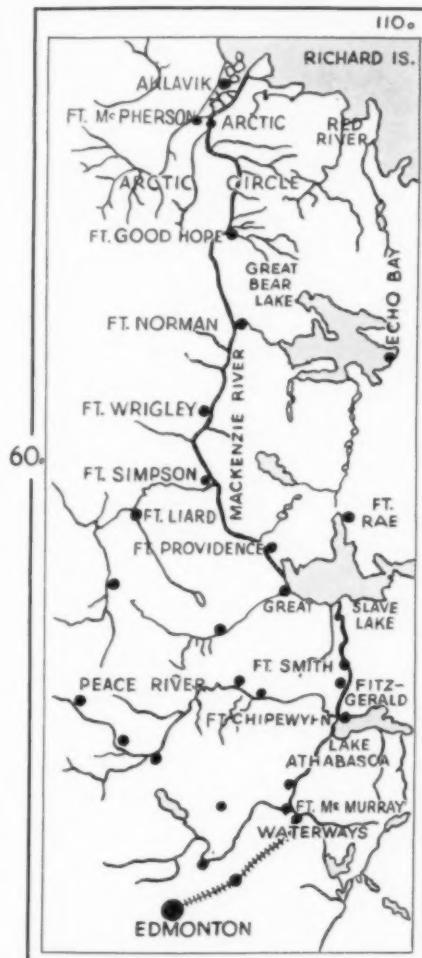
Early in the morning of the second day the high wooded shores give place to low-lying willow

swamps where in the fall white geese, or wavies, are killed in large numbers by the residents of Fort Chipewyan.

Towards noon beautiful island-dotted Lake Athabaska is reached and ere long we see Fort Chipewyan on a rocky promontory, its whitewashed buildings and fences thrown into bright relief against a background of dark green spruce, while overhead flutters the red flag of the fur company.

As the steamer approaches, Indians, traders and missionaries throng the shore, conspicuous amongst them being the venerable old trader Colin Fraser who for a lifetime has traded successfully with the Cree and Chipewyan tribes of the surrounding forests.

This is historic ground. The first trading post in the Athabaska region was established in 1778 by that notorious and aggressive old trader Peter Pond, the original post being situated about thirty miles south of where the Athabaska flows into the lake. Then in 1788, when the fur trade rivalry between the North West Company and the Hudson's Bay Company for supremacy in the Athabaska country was nearing its height, Alexander



Sketch map showing Mackenzie's route to the Arctic Sea in 1789; also present day railway and steamer route from Edmonton to Aklavik.



The stem-wheel steamer "Athabasca River" at Fort Fitzgerald.

Mackenzie sent his cousin Roderick to establish a fort upon the lake.

Fort Chipewyan was erected on the south shore on what is now known as Old Fort Point, and at the end of the eighteenth century was moved to its present location. After amalgamation the Hudson's Bay Company took over the North Westers' stronghold, which is the one still occupied, and abandoned Fort Wedderburn on Potato Island opposite the present post. It was from the original post at Old Fort Point that Alexander Mackenzie set out by bark canoe on his voyage of discovery down the Mackenzie river—his "River of Disappointment," — the Great River of the Crees—to the polar sea on the third of June, 1789.

His description of the departure is very terse and matter-of-fact: "We embarked at nine in the morning at Fort Chipewyan on the South side of the Lake of the Hills in latitude 58.40 North, and longitude 110.30 West from Greenwich, and compass has sixteen degrees variation East, in a canoe made of birchbark."

Mackenzie expected to reach the Pacific Ocean and was disappointed when 39 days later he gazed instead upon the ice-filled waters of the Beaufort Sea.

Four years afterwards, in 1793, he again departed from Fort Chipewyan on his famous overland journey via the Peace River, and this time succeeded in reaching the Pacific Coast.

Soon after leaving Lake Athabasca, Peace Point at the mouth of the Peace river is passed, a place which derives its name from the fact that the warring Crees and Chipewyans met here in council many years ago, "buried the hatchet" and smoked the calumet of peace. Known in the Cree language as the Amisk Winninew Sipi—"The Beaver Indian River"—this river long remained the southern frontier of the once powerful Beaver tribe.

At intervals along the banks of the Slave River are dotted the cabins of the buffalo rangers, the western bank being the limit of the wild buffalo preserve, while upon the shore can occasionally be seen majestic buffalo browsing contentedly, assured at last of safety from man's pursuit.

Eighteen miles of foaming rapids, in which there is a drop of 130 feet, are the only obstruction to navigation on the 2000-mile stretch of lake and river between the end of steel and the Arctic sea. This necessitates all freight and passengers being put ashore at Fort



The steamer landing at Waterways, Alberta; the "jumping-off" place, head of navigation and end of steel.

Fitzgerald and conveyed across the 16 mile portage in motor vehicles to Fort Smith where they re-embark on board the "Distributor."

At Fort Fitzgerald a lofty wooden cross, set high upon a rocky point as a warning to travellers, marks the Rapids of the Drowned. Here five voyageurs of the North West Company perished in 1786 while travelling these unknown waters in search of distant tribes with whom to trade, while in recent years three Oblate priests fell victims to the seething vortex of treacherous waters.

As though conscious of its importance the settlement of Fort Smith, named after Lord Strathecona, presents a neat and trim appearance. The Royal Canadian Mounted Police headquarters with its white painted buildings and red roofs, glimpsed through a heavy fringe of green spruce trees, first greets the eye. Next, the picketed trading posts of the Hudson's Bay Company and the Northern Traders come into view; while upon a gentle rise at the back of the fort are the buildings of the mission, school and hospital conducted by the Oblate fathers and Grey nuns.

Owing to the late break-up of the ice on Great Slave Lake it is usually nearly the first of July before the northern steamer leaves Fort Smith on her 3200-mile river journey to Aklavik and back, over the route taken by Alexander Mackenzie a century and a half ago.

At length, with the entire population of the little settlement lined up on the river bank, the "Distributor" shrieks a final warning and pushing a 300-ton barge ahead of her, pulls slowly from the dock.

Owing to the extreme heat, the total absence of darkness, the myriads of bull-dog flies, the incessant noise, and the crowd on board, conditions may not be the acme of comfort, yet most of the passengers are usually seasoned travellers and are not difficult to please.

Fort Resolution, situated on Great Slave Lake twelve miles from the mouth of the Slave river, is the first port of call.

This settlement, like Fort Chipewyan, owes its origin to the North West Company and the energetic and far-seeing group of Scotsmen who gave that organization the dynamic energy which enabled the wintering partners to carry



"Wooding up"—a familiar scene in river transportation on the Mackenzie.

their trading goods nearly 3000 miles by birch-bark canoe from Montreal to the Northwest in order to cut off the trade of the Indian tribes from the Hudson's Bay Company who at this time still slumbered around Hudson Bay, satisfied apparently in the fancied protection and monopoly given by their Charter.

It was Laurent Leroux, henchman of Mackenzie's, who first erected a trading post on the south shore of Great Slave Lake which was moved a number of times until the present exposed site became a permanent centre of trade. For many years the post was located at a spot still known as the Old Fort, nearly 40 miles up the Slave river.

The flat in front of the fort is dotted in the summer time with the conical lodges of the Yellowknife, Slave and Dog-Rib Indians. The natives of this entire section of country still depend largely upon the caribou to feed both themselves and their sleigh dogs, and it is by no means unusual for one family to slaughter as many as 300 of these animals in the course of a single season.

Caribou are still fairly numerous in the Barren Lands to the eastward, though they now are believed to number

only some 3,000,000 as compared with Ernest Thompson Seton's estimate of 30,000,000 about 25 years ago; the repeating rifle in the hands of both Indians and Eskimos having done deadly execution within recent years.

The importance of the caribou to natives and trappers cannot be overestimated, and their failure to follow their customary paths of migration often leaves tragedy in its train.

This was exemplified only too clearly four years ago when Jack Hornby and his two young companions perished of starvation at the forks of the Thelon and Hanbury rivers owing to their having depended upon the country for their food supply and having failed to find the caribou.

Until quite recently Fort Resolution was the gateway to the Barren Lands, and it was from this post that both Warburton Pike and Seton set out for a sight of the vanishing musk-ox. These strange links with a pre-historic past were estimated at 1,000,000 a century ago, while at the present day only about a few hundred survivors remain on the American continent, roaming the Barren Lands north-east of Great Slave Lake.



Fort Smith harbour.

Since the earliest days of discovery Fort Resolution has been one of the centres of the fur trade which is still the life-blood of this vast area of swamp and forest; a fact brought forcibly to the attention of every traveller visiting the North.

From the date of their amalgamation with the North West Company in 1821, the Hudson's Bay Company for generations enjoyed almost a monopoly of trade throughout this region, but the completion of the railway to Waterways twelve years ago made the country more accessible than formerly, and independent traders and trappers entered in large numbers.

The ensuing competition, with the high fur prices resulting from post-war inflation, gave such an impetus to trapping that the fur resources of the country have been depleted to a point where fur is scarcer now than within memory of living man, to the impoverishment of Indian and trader alike.

As the Indians are also diminishing rapidly the future outlook for Canada's earliest industry in this part of the country is indeed very far from bright.

It must have been near Fort Resolution that on July 9th, 1789, Mackenzie sighted a lodge of Red Knife (Yellow-

knife) Indians, a tribe which derived its name from using knives made of native copper, and obtained an Indian guide. So numerous were the difficulties encountered from drift ice, contrary winds and the ignorance of their guide, whom English Chief—Mackenzie's leader—threatened to murder, that it was the 29th of the month before they reached the mouth of the river where Fort Providence now stands.

After leaving Fort Resolution a brief call is made at the small trading post at the mouth of the Hay River and the remaining traverse completed to Fort Providence, in the shadow of the Horn Mountains. Here the mighty Mackenzie River commences, to be joined at Fort Simpson by the Liard, from which point it assumes added grandeur and magnificence.

The arrival of the first steamer at Fort Simpson in July, with mail, trading goods, fresh fruit and the annual two gallon permits of liquor allowed by the Department of the Interior to responsible white residents of the North West Territories "for medicinal purposes", is the event of the year and soon afterwards a carnival spirit pervades the settlement.



Fort Simpson in mid-winter, taken at night. The effect of the Northern lights in the sky can be plainly seen



Yellowknife and Dog-Rib Indian encampment at Fort Resolution, Great Slave Lake; Hudson's Bay Fort in left background.



In the course of his travels in the north country the writer has followed Mackenzie's trail in the summer time by both steamer and canoe, and in winter time by dog team.



The Ramparts of the Mackenzie near the Arctic Circle.



Portaging up to date. Ryan's headquarters at the half-way point on Smith Portage, with trucks drawn up in front.

This important post was for many years the Hudson's Bay Company's headquarters for the Mackenzie River District and was long ruled over, as was the adjacent territory, by Chief Factor Camsell, father of the President of the Canadian Geographical Society. From here most of the exploratory work in the Yukon was directed and the many interesting letters to be found within its walls bespeak the hardiness and loyalty of those sturdy pioneers who carried the fur trade into the desolate and mountainous country to the northward.

The old Anglican church built by Franklin still stands, looking somewhat ancient and shabby in contrast with the modern frame buildings of the wireless radio station and the Roman Catholic Mission.

Sixty miles below the fort the North Nehannie pours its crystal waters into the opaque current of the Mackenzie, and a spectacular range of lofty mountains, the habitat of the mountain sheep, swings into view. It was of this stage of the journey that Mackenzie wrote:

"The information which they (the Indians) gave respecting the river, had so much of the fabulous, that I shall not detail it; it will be sufficient just to mention their attempts to persuade us that it would require several winters to get to the sea, and that old age would come upon us before the period of our return: we were also to encounter monsters of such horrid shapes and destructive powers as could only exist in their wild imaginations."

Fort Norman, at the junction of the Bear and Mackenzie Rivers occupies a commanding position but is dwarfed into insignificance by an enormous rocky amphitheatre towering 2000 feet sheer up from the water, and named Bear Rock.

Dating back to 1810 and named, it is thought, after Alexander Norman McLeod, this post also goes back to the days of the North Westers and has been changed to many different sites. For a while it occupied a position on Great Bear Lake where the missionary Petitot found Nicholl Taylor in charge in 1866. Taylor, three years later, moved the post to its present location



Dog teams starting off from a Hudson's Bay Company post.



A typical Indian hunter of the Mackenzie River district.



Happy childhood in the far north; a domestic scene at Fitzgerald.



A half-breed voyageur. It was men of this type who tirelessly propelled the bark craft over rapids and across storm-tossed lakes a century ago, and more recently worked in York Boats and scows on the river highways of the North.

and his son, until recently, frequently acted as interpreter for the Hudson's Bay Company.

No longer is fur the chief topic of conversation at Fort Norman for interest is now centred on the mining of radium-bearing pitchblende ore and silver, at the eastern end of Great Bear Lake, and the shipment to the mines of oil refined at Norman from local wells.

Soon the Ramparts are reached. Here the full volume of the current is thrown into a narrow channel barely 200 yards wide with precipitous rock cliffs, like battlemented walls, towering high on either side.

After a swift passage through this six mile stretch of turbulent river the steamer finally debouches into the wide and placid water opposite Fort Good Hope. Here, on the border of the Arctic Circle, vegetables of all kinds are raised with great success, due largely to the perpetual daylight and sunshine in the summer time which makes things grow apace.

Fort Good Hope also has its historical associations for it was hereabout that Duncan Livingstone, of the North West Company, and his companions were massacred by Eskimos in 1799 when on an expedition to trade directly with them, instead of through the intermediary of the Hare and Locheux Indians.

Arctic Red River, within the Arctic Circle, is reached after an uninteresting



Fort Wrigley on the Mackenzie, a solitary trading post.



The waterfront at Hay River, Great Slave Lake.

trip of 225 miles through desolate country. At this point the midnight sun is seen in all its glory as it gradually dips for a fleeting moment below the horizon, then rises again, suffusing the sky with a smoky red radiance.

The ordinary procedure of life seems to be reversed at this point as everyone sleeps in the daytime to avoid the mosquitoes and torrid summer heat, and rises in the evening.

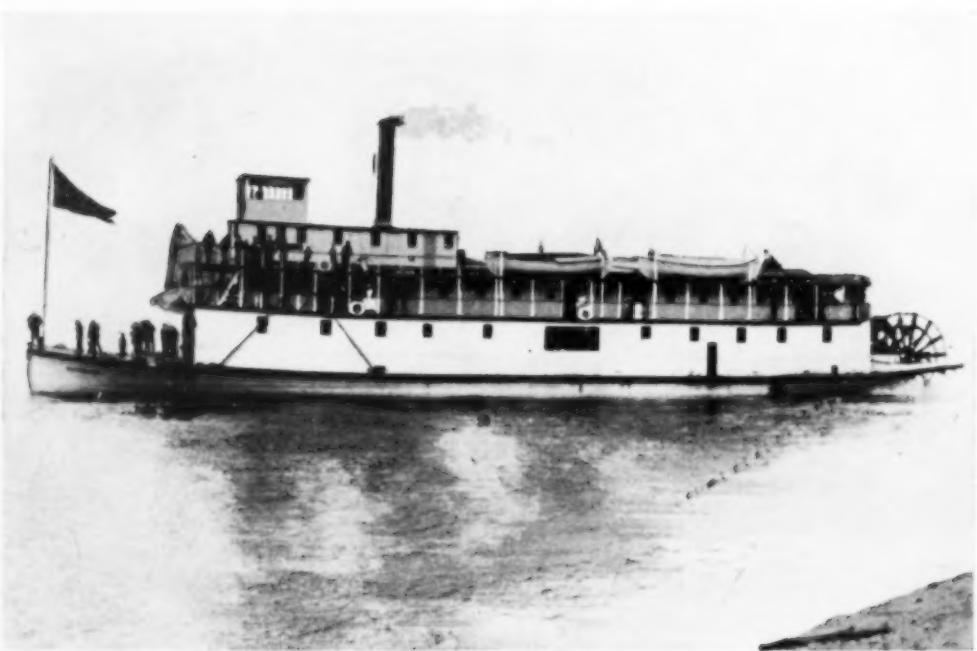
Soon after leaving Arctic Red River the steamer enters the narrow winding channel of the Peel river with its luxuriant and almost tropical growth of vegetation frequently sweeping the deck, and within a few hours pulls in to the swampy, low-lying banks at Fort McPherson.

Here the desolation and loneliness of the Arctic strikes one vividly; it is like a land forgotten. The Lochoux Indians who trade here are well-dressed and appear healthier and cleaner than those to the south of Fort Good Hope. They are bright and intelligent, and seem to be still holding their own in point of numbers.

While at Fort McPherson everyone makes a pilgrimage to the graveyard behind the Anglican church where lie the remains of the ill-fated members of



Back view of a Coronation Gulf Eskimo, showing the resemblance in cut of the coat to the civilized "swallow tail". The undergarments and socks are of summer-killed caribou, with the hair worn next to the skin; the outer garments of fall skins with the hair turned outward.



The "Distributor" on her 3,200 mile journey to Aklavik and back, over the route followed by Alexander Mackenzie on his voyage of discovery 150 odd years ago.

the Dawson Patrol who perished with Inspector Fitzgerald of the North West Mounted Police on the winter trail in 1911, almost within reach of the fort. Their tomb-stones stand out in stark relief against the Arctic background, grim reminders of nature's power over mankind.

It is only a few hours run to Aklavik, (an Eskimo word signifying "The Meeting Place") the young metropolis of the Arctic.

As the "Distributor" noses into the mud flats whites and natives rush on board, all anxious to obtain word from the up-river posts, and news and letters from the outside world.

Drawn up to the bank are some sixty or more motor schooners, owned by the Nunatamik Eskimos, and from their depths are wafted on to the northern breeze the strains of various up-to-date music-hall ditties.

The friendliness of these natives, who inhabit the Mackenzie Delta, is proverbial, but the Cogmollocks or Copper Eskimos to the eastward, who until a few years ago, were living under stone age conditions, have not been so genial

and at first strenuously resisted the encroachment of the white man.

Aklavik, situated only sixty miles from the polar sea, consists of traders' stores, mission, a hospital, a mounted police detachment and a wireless station, and owes its prominence to being the terminus of navigation for the river steamers.

However, while the Eskimos are doing their yearly trading, and the white residents from along the coast are awaiting the first steamer, Aklavik is full of bustle and excitement and is, in fact, an extremely busy place.

For 58 days Mackenzie and his party toiled up river against the powerful current on their return; now—thanks to the ingenuity of man—this journey can be comfortably accomplished in ten days by steamboat, or a few hours by aeroplane.

There can be little doubt but that a marvellous future awaits this vast, undeveloped land, and the mighty Mackenzie, no longer a river of disappointment, may yet see industrial plants along its shores where now stand the primitive log cabins of trappers and fur-traders.

Buried Cities of Ceylon

By LILIAN CHAMBERS

Illustrations by courtesy of the Ceylon Tea Bureau, Montreal.

ALTHOUGH most people have heard of the ancient civilizations of Babylon and Egypt, few know that there was just as wonderful a nation in earlier times in Ceylon.

Ceylon is an island south of India, small enough to be placed inside Lake Superior and still leave plenty of water round. Today there are about 5,000,000 inhabitants clustered mostly in the central mountainous district and in the south. To the north of the mountains is a vast tract of overgrown jungle which has only, of recent years, yielded up part of its store of beautiful archeological remains to prove that there were on this island over 2,000 years ago an even larger population with a far better scientific knowledge than the Cingalese have at the present time.

The ancient kings of Lanka, as the country was then called, ruled over large tracts of dry and arid land, to which water had to be brought for many miles. So they built reservoirs or tanks as they are called, using all the natural resources at their disposal — damming existing lakes, building sluices with such engineering skill that they still exist in many cases and are in working order.

One of these tanks measures over 7 square miles and resembles a beautiful natural lake but for the bund or bank which is all built of brick or stone. Levels must have been taken just like they are today and the water carried down to the plains by the best possible route, sometimes in lengthy tunnels.

On the plains more tanks were built which served the triple purposes of washing, drinking and irrigating the crops. Round the tanks grew up cities of architectural beauty. The largest of these is Anuradhapura which was Lanka's capital for more than eleven centuries. In the middle of the 9th century Anuradhapura was laid waste and Polonnaruwa became the real capital, but it never attained to the sacredness of its predecessor. The whole history of Lanka is bound up in its religion; the greater number of the buildings which have been unearthed are temples, monasteries and Dagabas. These latter are shrines to hold some sacred relic and are enormous mounds of brick, usually shaped like an inverted bowl with a secret passage into a small chamber in the very centre which contains the relic. We shall hear more of these later.





Kiri Vehera Dagaba at Polonnaruwa. Kiri means milk-white and was given because, at one time, the whole surface was covered with chunam, which gleamed like marble. Remains of the altars at the four cardinal points can be seen.

A great part of Anuradhapura is presumed undiscovered, as no residential quarter has yet been found, all the visible ruins obviously having been of some sacred use; it can safely be conjectured that the original city was larger in area than London.

In the centre of the town is the sacred Bo Tree, carefully placed here by devout Buddhists in 288 B.C., said to be an off-shoot of the actual tree under which Buddha sat in India and received revelations. It is one of the oldest trees in the world, with an authentic history of 2200 years. Today it is surrounded by railings and visited by thousands of devout pilgrims and curious sightseers.

It is hard to condense into these few pages all that can be said about the buried cities — the Brazen Palace built nine stories high, each story containing one hundred apartments, the whole supported by a group of 1,600 columns, which latter nearly all exist to the present day, the furnishings consisting of the

most costly chairs, couches and woolen carpets, everything decorated with gold and jewels; — the Ruanweli Dagaba once decorated with brick elephants' heads in relief, set shoulder to shoulder all the way round, having tusks of real ivory; — the Pillars of Thuparama, which are all that remain of a small dagaba, said to have contained Buddah's collar bone. These pillars stand on the platform surrounding the ruined dagaba and are slender and varying in height from 14 to nearly 23 feet. There are four rows of them and only 42 are missing out of the original number of 176. No one knows just what was their purpose.

A form of architecture unique to Ceylon are the moonstones. These are semicircular slabs of carved stone, set at the foot of flights of entrance steps. They are not to be confused with the semi-precious milky blue jewel of that name also indigenous to the island.

The carving on these moonstones is all done by hand, hewn out of the solid rock. They are all similar in design,



Dalada Maligawa, the finest example of Southern Indian architecture in Ceylon; showing influence of hordes of invaders from India, conquering, settling down and introducing their own beliefs, habits, and ideas.



Pavilion of the Island in the Nadana at Polonnaruwa. The moonstones at the foot of each flight of steps can just be seen.



Issurumuniya Temple at Anuradhapura. On the right side of the white porch, a man can be seen looking out of the rock into which the temple is built. Above the tank is a Bo tree.

though details are left to the individual sculptor. They are designed in concentric rings, the outer one being some conventional flower design; the next circle a procession of animals elephants, horses, lions and bullocks, always placed in the order named; then another ring of conventional design, followed by a ring of sacred geese, and finally in the centre a lotus blossom. It is a curious fact that lions figure a good deal in Cingalese carving, seeing that such an animal has never as far as is known set foot in the island. In a vihara (temple) at Anuradhapura there is a panel on which is a beautifully carved heraldic lion with upraised paw; its teeth are as sharp as if they were carved yesterday instead of 2,000 years ago. The native word for lion is Sinha and tradition has it that Wijaha, Lanka, was the grandson of a lion; hence the native is called Sinhalese in his own language, perverted by the Europeans to Cingalese.

The order in which the animals in the moonstones are carved never varies. These same animals may be found in the account of ancient temple decoration

in India and also in several modern Hindu temples. It is possible they may have some astronomical significance as at a shrine at Vijarama quaint bronze figures of men and animals have been dug up. A man and an animal lay in the direction of each of the cardinal points; at the north with a lion, south a horse, east an elephant, and presumably, since it was not found, a bullock was at the west.

Of one of the three largest dagabas in Ceylon an interesting diagram has been made to show that the apex of the third pyramid of Gizeh would fall within the spire of Abhayagiriya and its base angles coincide with the base from altar to altar, but the dagaba is, as usual, bowl-shaped and does not give the same appearance of size as the angular pyramid. One wonders whether there is any connection between the measurements of these two buildings or if it is pure coincidence.

The fourth largest dagaba in Anuradhapura is Mivisaveti; it was restored in 1888 through funds left by the King of Siam, then Prince, who stayed in



Kalawewa Tank built in the 5th century by King Dhatusena. Originally it was 40 miles in circumference extending as far as Dambulla. Below the sluice is a canal, the work of the same king, which extends for 50 miles to Anuradhapura. The material in the bund or dam is upwards of 7,000,000 cubic feet; its completion occupied 10,000 men for five years.

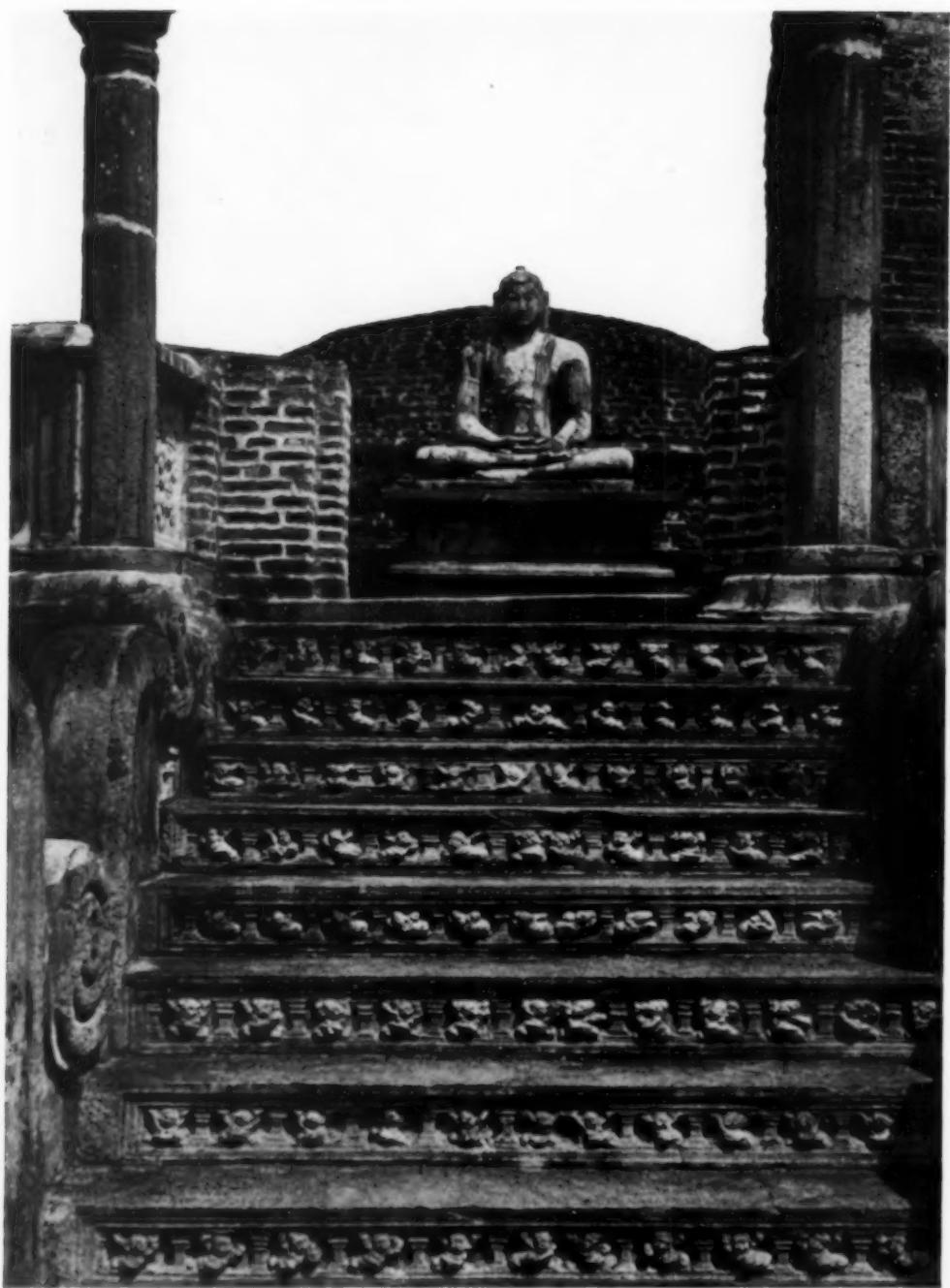
Ceylon on a long visit and took a keen interest in the restoration of the old Buddhist buildings. The origin of this dagaba lies in the forgetfulness of a king. King Dutugemunu during his reign did many pious deeds, always trying to expiate the wrongs done in his youth. He had fought many battles in his attempts to oust the usurping Tamils from the throne of his ancestors. Eventually he was successful and mounted the throne, ruler over all Ceylon, but he never could forget the numbers of people killed in his wars.

It was his custom, amongst other things, to offer a portion of whatever he ate to the monks, but one day he unthinkingly consumed "a condiment flavoured with chillies, called mivisavetiya, or chilli-sambal", forgetting his usual ceremony. This caused him so much concern that by way of expiation he erected the dagaba called Mivisavetiya.

Polonnaruwa, the second capital of Ceylon, is smaller than Anuradhapura;

its boundary walls are accurately known, indeed a large amount of the original wall still stands and has now been laid bare of the all-enveloping jungle growth which in this tropical climate makes such rapid strides that a deserted building can be lost to view in less than a year.

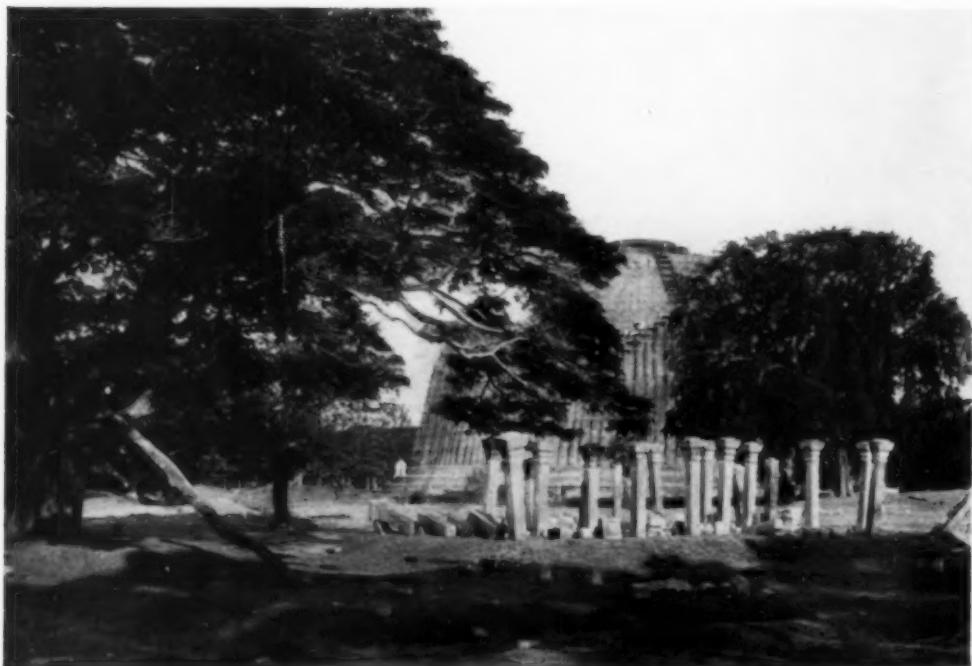
There was once a great park built here called Nandana, the "Park of Heaven", which contained a very luxurious bathing house, ruins of which are still to be seen. In the words of the old record this garden "was ornamented with a bathing hall that dazzled the eyes of the beholder, from which issued forth sprays of water that was conducted through pipes by machines, making the place to look as if the clouds poured down rain without ceasing — a bathing hall, large and splendid, and bearing, as it were, a likeness to the knot of braided hair that adorned the head of the beautiful park nymph. It also glittered with a mansion of great splendour and brightness such as was



Buddha in the circular relic shrine at Polonnaruwa. This picture shows clearly the beautiful carving on the stone steps.



Tetawanarama Temple at Anuradhapura is 170 feet long. At the west end can be seen a giant figure of Buddha; it was built by King Parakrama in the 12th century.



Ruanweli Dagaba at Anuradhapura; built by King Dutugemunu in 137 B.C. The height of the drum today is 178 feet, 8 inches.

not to be compared, and displayed the beauty of many pillars of sandalwood, carved gracefully, and was like an ornament on the face of the earth. A hall shaped like an octagon, and a beautiful and pleasant hall, formed after the fashion of the beautiful coils of the king of serpents, adorned this park."

This is of a much later date than the ruin at Anuradhapura, having been built towards the middle of the 12th century, so it is not surprising that most of the detail mentioned in this delightful description, can be found at the present

day. This pleasure garden also included a summer pavilion, built on a place like an island with water flowing on two sides of it; near it were a museum and a "swinging hall", in which was a swing hung with tinkling bells of gold.

Endless are the beautiful old buildings that could be described, proving the comfort and civilisation in which the people lived at a time when England was in a state of barbarity and Canada not even a dream of the future. But space may not be found for them here.





Pasque Flower (*Anemone patens*) Photo by A. O. Brigden, Winnipeg

Some More Canadian Wild Flowers

By WILLIAM H. BRIGDEN

COMMENTS and correspondence which ensued on the publication of the article on the "Wild Flowers of Canada" in the *Journal* of March, 1932, indicated how wide is the interest in the subject. The first reaction that comes to one who has never previously given any attention to the wayside flowers is usually a feeling of wonder at the vastness of the field. "I had no idea that such a number of beautiful wild flowers grew in Canada" is an oft-met-with remark. The additional notes here given are, like Sir Isaac Newton's pebble of truth on the margin of an undiscovered ocean, but a suggestion of the wonders to be explored.

Harmony is one of nature's choicest laws and perhaps nowhere is it better evidenced than in the colourings of the flowers. The mild breezes and soft yellow-greens of spring-time find their quiet complement in the tones and shades of the early blossoms, in the delicate tints of Spring Beauty, Hepatica, Bellwort, the Violets, Lupine, Clintonia, and the predominating whites of Arum, Bloodroot, the Fumitories, Anemones, May Apple, Wood Sorrel, Bunchberry and many others. As the year advances

and the sun's beams gain intensity the colours deepen. Fireweed, Iris, Hardhack, Joe-Pye Weed, Day Lily, Goldenrod, etc., respond to the warming challenge till the climax comes in the flaming Orange Milkweed, Oswego Tea and Cardinal Flower.

With the coming of the Fall, nature decks herself in a new glory. The sumachs, poplars, birches, oaks, and above all the maples, robe themselves in glowing chromes and orange, flaming scarlet and royal crimson, all the more brilliant for the dark background of the evergreens—the pines and spruces, larches and firs, hemlocks and cedars. We are apt to interpret the vision according to our own predisposition. Thomas Hood in his "Dirge" writes—

"The autumn is old;
The sere leaves are flying;
He hath gathered up gold,
And now he is dying:
Old age, begin sighing!"

Surely a truer interpretation is that by George Arnold—

"In all my autumn dreams
A future summer gleams
Passing the fairest glories of the present,"

for the autumnal display is an evidence of life's continuity rather than of decay. The yellowing leaf is the result of the living tree's withdrawal of the green chlorophyll into storage for the colouring of next spring. It is one of nature's guarantees that "summer and winter shall not cease."

Probably on account of their singular and varied forms, no flowers awaken more general interest than do the Orchids. Three are selected for illustration. Lovers of romance and mystery ever find in the old Greek myths a stimulus for imagination. Among those stories none is more attractive than that of the charming nymph, Arethusa, pursued by the too amorous rivergod, Alpheus. In response to the maiden's appeal Apollo's sister, Artemis, opened up an underground passage for Arethusa and changed her into a fountain, but the river still pursued the coy nymph and passing under the sea, appeared again bubbling up by her side, even in her new refuge. Linnaeus, with appropriate fancy, bestowed the name of Arethusa (*Arethusa bulbosa*) upon our lovely orchid, which grows solitary in a swamp. Of remarkable form and delicately scented, this rich rose-purple bloom with yellow beard is charmingly attractive. A single leaf is wrapped around and hidden in the stem, unfolding only after the flower has faded. It is becoming rare because of the orchid hunters who are more concerned with immediate possession than with future beauty. Search for it in May and June, admire — but, withhold your hand.

Showy Orchis (*Orchis spectabilis*) grows fairly freely in open moist woods in May and June, giving preference to hemlocks. Its white lower lip provides a splendid platform for the honey-seeking bumblebee. The coveted nectar is in the long spur at the back and to reach it Mrs. Bumblebee must needs thrust her head within the hood formed by the pink, or purple, petals and sepals which arch overhead. She comes in contact with two sticky round discs to which are attached the pollen clusters. The discs adhere to her brow and she becomes perchance the bearer of the precious fertilizer to the next flower. A group of these actually "showy"

flowers stands prominently above the two large shining leaves which grow at the base of the plant. A pleasant perfume adds to its charms.

The third orchid illustrated is perhaps less attractive but none the less worthy of examination. The name, Large Coral Root (*Corallorrhiza maculata*), indicates the form of its brownish, irregular, coral-like root, from which springs the straight, leafless stem wrapped in light, fawn-coloured sheaths or scales and bearing a spike of slightly fragrant flowers of colour similar to the sheaths but spotted and lined with madder purple. Groups of Coral Root grow in spruce and other woods but the shaded aisles must be penetrated more deeply and a more watchful eye exercised for their discovery than for the brightly coloured Showy Orchis.

Can any more graceful flower be found than the Wild Columbine (*Aquilegia Canadensis*)? The cultivated varieties of the garden may boast of larger blooms but must yield the palm for airy lightness to their wild sister. Even in colour the golden-tasseled red and yellow blossoms of the wild rival the best efforts of the horticulturalist. Darting around the brilliant pendent flowers the equally dainty, ruby-throated humming bird may be seen, draining the nectar in turn from each of the long spurs which are the petals of the flower. These red tubular petals, joined below by five small sepals, also red, have at the top a circle of little bulbs like a coronet. The lining of the petals is yellow, as are also the projecting pistils and stamens. Growing among stones on banks and borders of woods Columbine is in bloom from April to early in July.

Shakespeare, in *Cymbeline*, pictures Cloten seeking to awaken Imogen with the charming little song, "Hark! hark! the lark at heaven's gate sings," in which occurs the couplet —

"And winking Mary-buds begin
To ope their golden eyes."

Notwithstanding that Mrs. Trail, one of the first, if not the very first, to write a popular book on Canadian flora, identifies the "Mary-buds" of Shakespeare with Celandine, the consensus of opinion is rather with Marsh Marigold (*Caltha palustris*) as the flower intended,

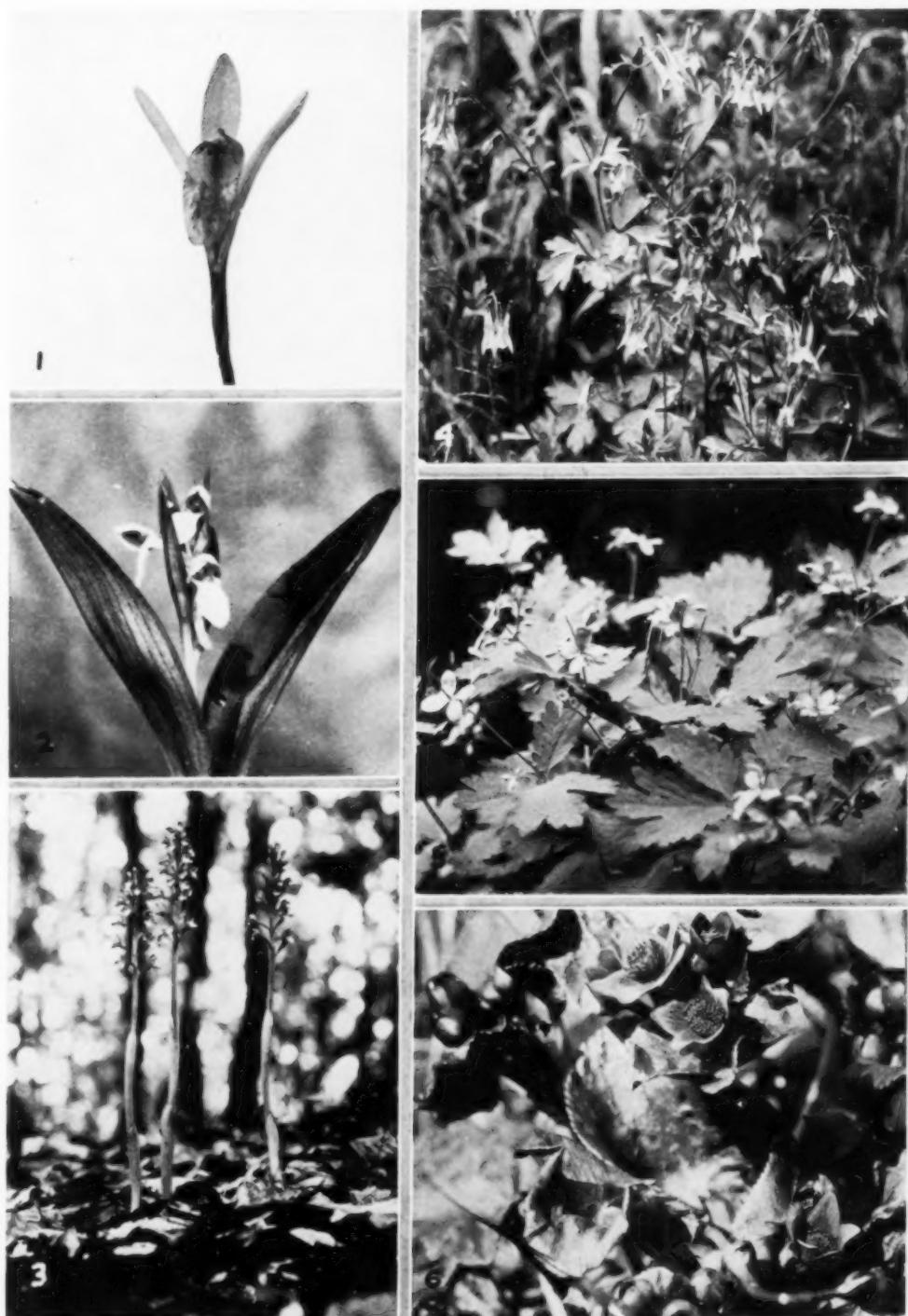


PLATE I.

1. *Arethusa* (*Arethusa bulbosa*). 2. *Showy Orchis* (*Orchis spectabilis*). 3. *Large Coral Root* (*Corallorrhiza maculata*). 4. *Wild Columbine* (*Aquilegia canadensis*). 5. *Greater Celandine* (*Chelidonium majus*). 6. *Marsh Marigold* (*Caltha palustris*).

especially as the moist meadows of the Stratford Avon are golden-spangled in April with the glowing cups of the Marigold. Almost every swamp contributes its share of gold and green in great masses to add to the gaiety of springtide. Early settlers in Canada used the large glossy leaves when young as pot-herbs, declaring them a good substitute for spinach. A member of the Crowfoot family, the Marigold is allied to the Buttercups, Anemones, Meadow Rues, etc.

Members of the Poppy family are notable for their coloured or milky juices, our outstanding native example being the well-known Bloodroot. A European importation, now naturalized in Canada, particularly in Ontario and eastward, is the Greater Celandine (*Chelidonium majus*). Its saffron-coloured sap, with a suitable fixative, makes an excellent stain. The foliage consists of large and handsome soft leaves divided into rounded and serrated leaflets. The somewhat fragile flowers, in a loose cluster at the end of each branch, have four deep-yellow petals, and opening only one or two at a time keep the plant in bloom from May to September. The seed pods are long and slender. The name Swallow-wort, by which Celandine is often known in Europe, refers to its appearance coinciding with the return of the swallows. The transfer of the identification of Shakespeare's "Mary-buds" from this flower to Marsh Marigold is merely "robbing Peter to pay Paul."

The floral emblem of Manitoba is the beautiful Pasque Flower (*Anemone* or *Pulsatella patens*). *See illustration at head of article.* Through the west this is probably best known as the Prairie Crocus or Crocus Anemone, though a dozen other names have been bestowed on it. Early in spring the buds, clothed in soft, silky, silvery hairs, thrust their heads above ground and when four to six inches high open out into cup-like blossoms, formed of five or six sepals of light purple, shading to white at the base. The leaves, divided into narrow lobes, succeed the flowers. The seeds, something like the feathery Clematis, are equipped with silky wings and long tails for their excursion into the ripening sunshine to found new families.

Among the most beautiful of our wild flowers must be numbered Wild Lupine (*Lupinus perennis*) which in May and June clothes the sandy banks and sunny hillsides with a splendour of azure hue. Varying from blue, through shades of violet, purple and pink, the long spikes of pea-like blossoms stand erect to display their charms. Among its popular names that of "Sun Dial" is peculiarly suggestive. Lupine is among those interesting sensitive plants which go to sleep at night and respond to the changes of temperature and variations of sunshine and shadow. The leaves are divided, Horse-chestnut-like, into leaflets, usually eight, which shut downwards round the stem like an umbrella, or stand erect to prevent chilling from radiation.

The many varieties of the Mint family are often a puzzle to the amateur. Schuyler Mathews in humorous vein suggests that "here is an order of plants, which was apparently created for the express purpose of convincing the amateur that he can never master botany." No trouble, however need be experienced in identifying Ground Ivy or Gill-over-the-Ground (*Nepeta hederacea*). As its name suggests it is a creeping, trailing plant admirably suited for the rockery but needing watching to prevent its overrunning everything else. Naturalized from Europe it is to be found in moist, shady places. The deep green leaves, often like the stem, magenta stained, are roundish and scalloped. The small two-lipped flowers, appearing in May and June are light purple, with darker spots near the throat. In some places a tea prepared from the leaves is of repute and in England before the introduction of hops the leaves were also used for clarifying and flavouring a beverage called Gill Ale.

Nature students need not be unduly nervous concerning the danger of infection from poisonous plants. Confidence may be gained by knowledge. To be forewarned is to be forearmed. The number of plants in Canada injurious from contact only is exceedingly small. The one most likely to be met with and which is, unfortunately, very common, is Poison Ivy (*Rhus toxicodendron*). Scrambling over fences and



PLATE II.

1. Wild Lupine (*Lupinus perennis*). 2. Ground Ivy (*Nepeta hederacea*). 3. Poison Ivy (*Rhus toxicodendron*). 4. Virginia Creeper and Poison Ivy. 5. Fringed Polygala (*Polygala paucifolia*). 6. Fringed Polygala—near view.

spreading in woods and open areas by its running rootlets, it is to many persons a source of painful eruption through contact with the skin and, according to some, by proximity even without actual touch. Yet there are some who are able to handle it with impunity. Its loose clusters of greenish-white flowers in June and July are followed in August by cream-tinted berries which contrast pleasingly with the reddening leaves. Temporary relief from the burning irritation of the poison may be obtained by a free use of Extract of Witch-hazel, but a physician's attention is advisable. The innocuous Virginia Creeper (*Psedera quinquefolia* or *Ampelopsis*) is frequently mistaken for the poisoner, but, as shown in the illustration, there are easily recognized differences. Whereas Poison Ivy has but *three* leaflets, waved, sinuous, or at the most only shallowly notched at the edge, Virginia Creeper has *five* leaflets, strongly toothed. Poison Ivy is included among the eight or nine members of the Cashew family which grow in North America, of which the Sumachs, with their deep red fruit plumes, are the most conspicuous. Poison Sumach (*Rhus Vernix*), one of the group, dun-coloured, instead of red, is fortunately not very common in Canada.

"Like a swarm of gay crimson butterflies on a dark background of leaves" is one writer's description of Fringed Polygala or Flowering Winter-green (*Polygala paucifolia*). This dainty low-growing plant is a member of the Milkwort family. It displays its charms in light soil and in damp rich woods in May and June. Underground it bears, like the Wood Sorrel and other plants, self-fertilized (called by botanists "cleistogamous") flowers. The bright green leaves live through the winter, turning a bronze red. Milkworts gained their name from an old fancy that cattle feeding thereon gave an increased yield of milk.

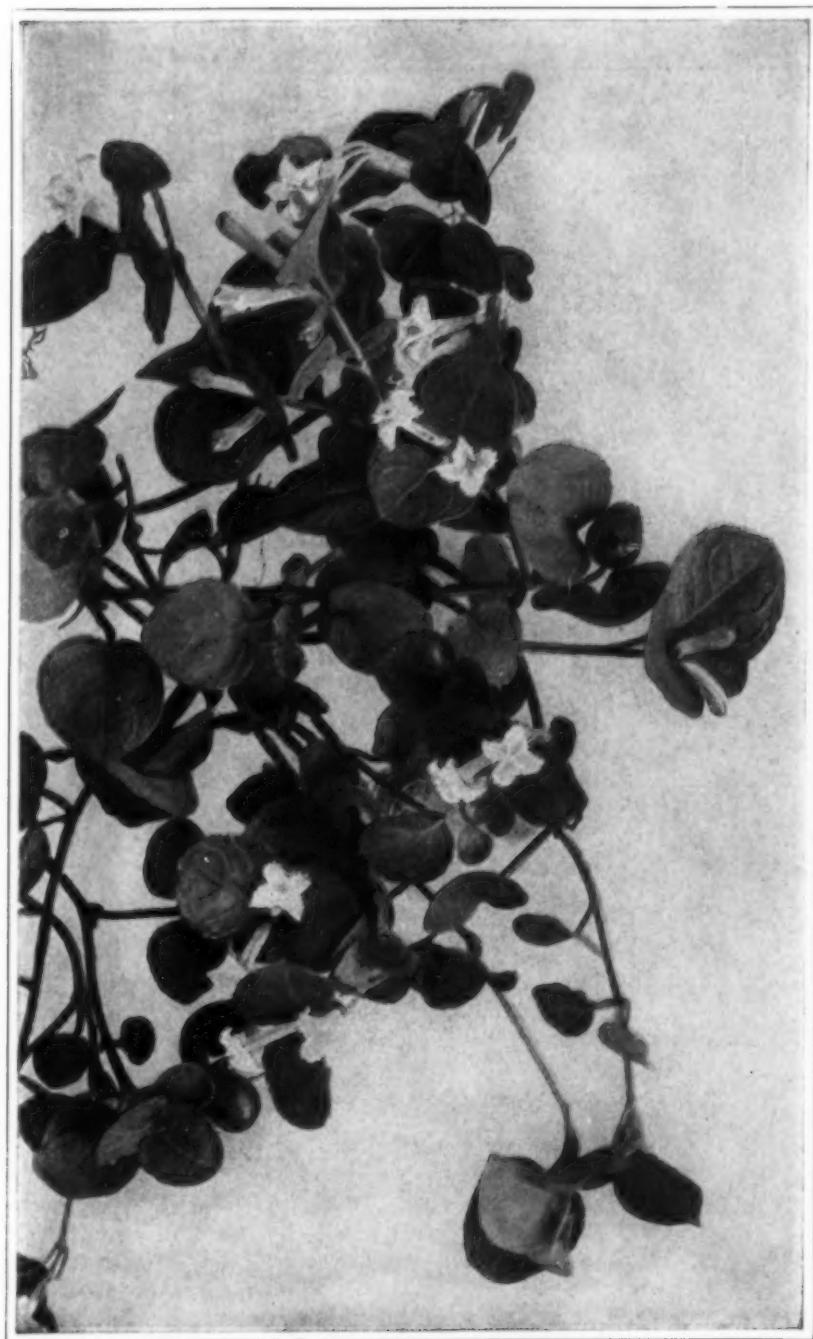
Wild Geranium, or Crane's-bill (*Geranium maculatum*) blooming in May, through the flowery month of June, and well through July, is a delicate flower of magenta colour (some would say pink, or purple). Spots on the root leaves account for the name *maculatum* (spotted) and the stork-like beak of the

fruit for Crane's-bill. The deeply cut, five-lobed leaves are ornamental and crushed yield the typical geranium odour. The plant forms an attractive garden flower, especially in fairly large mass.

Another midsummer flower, and one to be found even until September, is Musk Mallow (*Malva moschata*). In fields and by roadsides, its large light rose-coloured, sometimes white, blossoms, in appearance somewhat like those of the Hollyhock, may be readily found. Its leaves resemble the geranium but are less ornamental and have a faint musk odour. Together with the small-flowered Common Mallow, or "Cheeses" (*Malva rotundifolia*) it is an immigrant from Europe.

The long sword-like leaves and the large brown cylindrical flower-heads of the Common Cat-tail (*Typha latifolia*), rising from five to eight feet above the surface of almost every swamp, are known to everybody. Bulrush, a name very generally applied to this plant, more properly belongs to a member of the Sedge family. There are two varieties of Cat-tail. In the one illustrated the two nearly equal divisions touch each other; in the other, the Narrow-leaved Cat-tail (*Typha angustifolia*) there is a considerable separation. The upper half consists of a dense mass of staminate (male) flowers, the lower, of pistillate (female). As they ripen the yellow powdery pollen of the upper part falls upon the lower, thus fertilizing the flowers, and in the process the upper part withers away, while the lower grows to fully an inch in diameter. Eventually the flower-head bursts and scatters its seeds to the winds. At this stage the woolly heads may be used as packing material and as part stuffing for beds. The stems and leaves in some countries find a useful place for thatching and fuel, in the making of mats, chair seats, etc. The root stalks yield a starch and the shoots are eaten by the Don Cossacks as Cossack Asparagus, while the pollen, collected and mixed with the spores of club moss, is used by the pharmacist in certain dressings.

Classed in government publications as a troublesome farm weed, Viper's Bugloss (*Echium vulgare*) of the Borage family, is nevertheless a pleasing ornamentation to many a waste lot. Its



Partridge Berry or Twinberry (*Mitchella repens*)

Colour plate by courtesy of New York State Museum



Dog Violet (*Viola canina*)

One of the numerous varieties of violets growing in Canada.

Colour plate by courtesy of New York State Museum



PLATE III.

1. Wild Geranium (*Geranium maculatum*). 2. Wild Geranium—near view. 3. Musk Mallow (*Malva moschata*). 4. Cat-tail (*Typha latifolia*). 5. Cat-tail in seed. 6. Viper's Bugloss (*Echium vulgare*).

straight spikes of blossom, two feet or more in height, present a strong mist of soft blue when massed against the verdant background of a hillside. Examined more closely, the individual flowers vary from the pink of the buds and projecting stamens to the brilliant blue-violet of the full-blown blooms. The stiff stems are spotted, which, with the fancied resemblance of the seeds to the shape of a serpent's head, and the idea that "like cures like", suggested that the plant would cure snakes' bites and hence the name "Viper's Bugloss". Other names are Blue Weed, Blue Devil, etc. Narrow root leaves, six to eight inches long, form rosettes on the ground while small similar leaves spring from the stem between the bloom clusters. The whole plant is covered with bristly hairs.

Another Borage, also classed as a farm weed, yet with considerable aesthetic interest, is Hound's Tongue (*Cynoglossum officinale*). A somewhat bushy plant, the attractive appearance of its bunches of deep magenta flowers is counteracted by a disagreeable odour. The fruit, consisting of groups of four "nutlets" flat on one side and covered with short barbed prickles, becomes burs which adhere persistently to one's clothing and form tangled mats in the fleece of browsing sheep. In common with other members of the Borage family, Hound's Tongue is clothed in short hairs.

Everyone is familiar with the tall yellow-flowered, velvety-leaved spikes of the Great Mullein (*Verbascum Thapsus*) standing like sentinels on stony waste lands. Fewer folk are conversant with the less obtrusive Moth Mullein (*Verbascum Blattaria*) which is here illustrated. "A favourite of mine is the little Moth Mullein" writes John Burroughs. The light yellow, sometimes white, flowers tinted on the back with lavender, are set sparsely in a loose raceme at the top of a slender stem two feet or more high. The petals fall on the slightest provocation. To the photographer the plant proved a trying subject. The first specimens, growing on a waste lot in Yonge Street, Toronto, resented transplanting by shedding every petal within a hundred yards. The next attempt, at Queenston, where the

Mullein fringed the highway to Niagara, was no more successful, the wind playing a rhythm to which every supple stem bowed and danced, scattering its tender blossoms. A group transplanted to the shelter of a nearby shed wilted before the camera was in position. A fourth effort, down in the shelter of the Niagara Gorge near a pile of railway sleepers produced the picture shown. The Mulleins, like Turtle-head, Speedwell, Wood Betony and Toad-flax, belong to the Figwort family, as do also the Beard-tongues, Monkey-flower, Gerardias, Painted Cup and others which must be left over for the present.

A showy summer flower is the Purple-flowering Raspberry (*Rubus odoratus*) of the Rose family. An ornamental bush, about four feet high, it finds a place in English shrubberies, though here in its native land, it is disregarded. From June to August a succession of flowers in various shades of rose and purple make it attractive, while the aromatic perfume proceeding from bristly hairs, each tipped with a tiny drop of sweet scented gum adds to its charm. The buds, like the Moss Rose, are enwrapped in these hairs. The fairly large fruit belieing its appearance, is dry and insipid.

Creeping about the bases of trees in dry woods in June and July we find the trailing vine, Partridge Berry, or Twinberry (*Mitchella repens*). Its dark evergreen leaves, veined and variegated with whitish lines, are in themselves attractive. Add to this, pairs of small fragrant trumpet-shaped flowers, pink on the outside and lined as with creamy-white velvet on the inside, and you have an exceedingly pretty plant. The red berries, edible but almost tasteless, are favourites with the Grouse, or Bob White, the Canadian partridge.

The floral world of Canada, like that of the United States, while rich in native products is under a remarkable debt to other countries. As with our human population, though in lesser proportion, immigration from other lands accounts for large numbers of naturalized subjects. In the Pink family alone, of 71 members listed in Gray's Botany as growing in North America, no less than 42 are recorded as from the Old World, while one hailed from Japan. Among

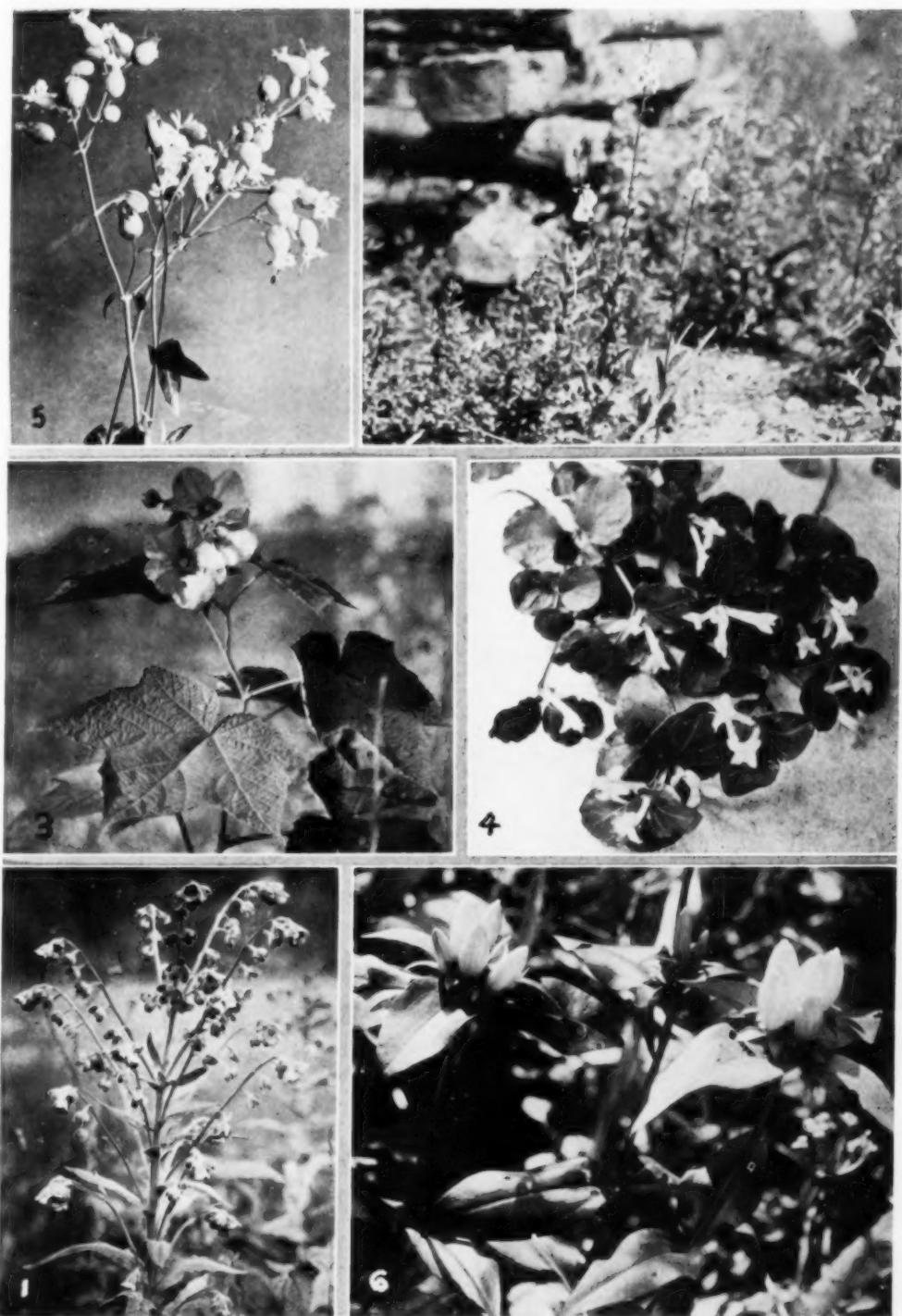


PLATE IV.

1. Hound's Tongue (*Cynoglossum officinale*). 2. Moth Mullein (*Verbascum Blattaria*). 3. Purple-flowering Raspberry (*Rubus odoratus*). 4. Partridge Berry (*Mitchella repens*). 5. Bladder Campion (*Silene latifolia*). 6. Bottle Gentian (*Gentiana Andrewsii*).

the European settlers Bladder Campion (*Silene latifolia*) is outstanding for its beauty and delicacy. Flowering from June to August it may be found on many a moist roadside or meadow in Quebec and Ontario. The quaint form of the flower is very striking. Five white petals, each split in two, appear as a fringe at the top of a beautifully veined green globe resembling a tiny citron melon.

Linnaeus, the founder of modern botany, dedicated the family to which the Milkweeds belong to the Greek physician Asclepiades, under the name of Asclepiadaceae. The chief medicinal qualities are found in tropical species such as Indian Sarsaparilla, Venezuelan Ipecacuanha, etc. From the milky juice of some of the species rubber is obtained. Canadian interest centres in the Milkweed genus of the family, of which the Common Milkweed (*Asclepias syriaca*) is the most abundant and perhaps the most aesthetic in colouring, if not the most brilliant. One feels the utter inadequacy of our colour nomenclature in the attempt to describe this flower. "Dull, pale greenish purple pink," "pale brownish lilac," "pale lavender-brown," are among the efforts of different writers. In common with the other species of the genus the sepal-like parts of the flower turn backward, leaving the "crown" fully exposed, and giving each small blossom of the flower-head a "double" appearance as if two blooms were fastened base to base. A very striking feature is the arrangement of the pollen in tiny pockets, somewhat after the fashion of the orchids. These pockets of pollen are strung together like a pair of saddle-bags. Hold an active housefly by its wings and let its legs come in contact with an unrobbed milkweed blossom and you may find a pair of these saddle-bags clinging to one of its feet. Not less interesting than the flowers are the seed-pods. The dried cases, coloured with bronze paint, often figure in winter house decorations. But examine the pod when it has just ripened and burst. The flat, roundish brown seeds lie in serried rows overlapping each other like the scales of a fish or the feathers of a butterfly's wing, while the pendent floss filaments, slightly damp, are massed

and packed in apparently impossible space yet in perfect order. Exposed to the air the filaments dry and separate into the silkiest floss and the seeds, each with its complement of fairy wings, float in succession on the breeze. The silky floss makes excellent down for cushions and gives to the plant its alternative name of Silkweed.

Fireweed, or Great Willow Herb (*Epilobium angustifolium*) is a member of the Evening Primrose family and is an illustration of nature's effort to hide or heal her sores. The doctrine of the "Survival of the fittest" lends emphasis to the thought of nature "red in tooth and claw" but overlooks the great fact that nature is also ever putting into practice remedial measures for its diseases and injuries. Driving through the war-wasted areas of Flanders two years after the armistice, one could not fail to note the benevolent efforts of mother nature to clothe the feet of her tortured, blackened tree trunks with rich growth of grasses and ferns, meanwhile she reared new children of the forest to take the places of their stricken parents. Your forester with billhook and saw cuts off here and there a limb and slowly mother nature commences to roll the torn edges of the bark over the cut in an effort to hide the sore and stop the bleeding. Over the devastated areas of the pioneer settler, where woodman's axe and furious fire have done their worst, nature, abhorring ugliness, spreads a new carpet of beauty and among the kindly plants none more quickly adds a touch of gladdening colour than the Great Willow Herb with its magenta-pink blossoms. Fitly is it named Fireweed. The red-tinted seed pods are long and slender and in September, when ripe, split lengthwise and send adrift whole colonies of silky-winged seeds.

Gentians are by reputation peculiarly Alpine plants. They bloom in the Swiss Alps as, perhaps, nowhere else. Canada, however, possesses several varieties, the most beautiful of which, the Fringed Gentian, was illustrated in a previous article. The species most frequently met with here is the Closed, or Bottle Gentian (*Gentiana Andrewsii*). Remarkable for its tightly closed bottle shape it is of an intense violet-blue at

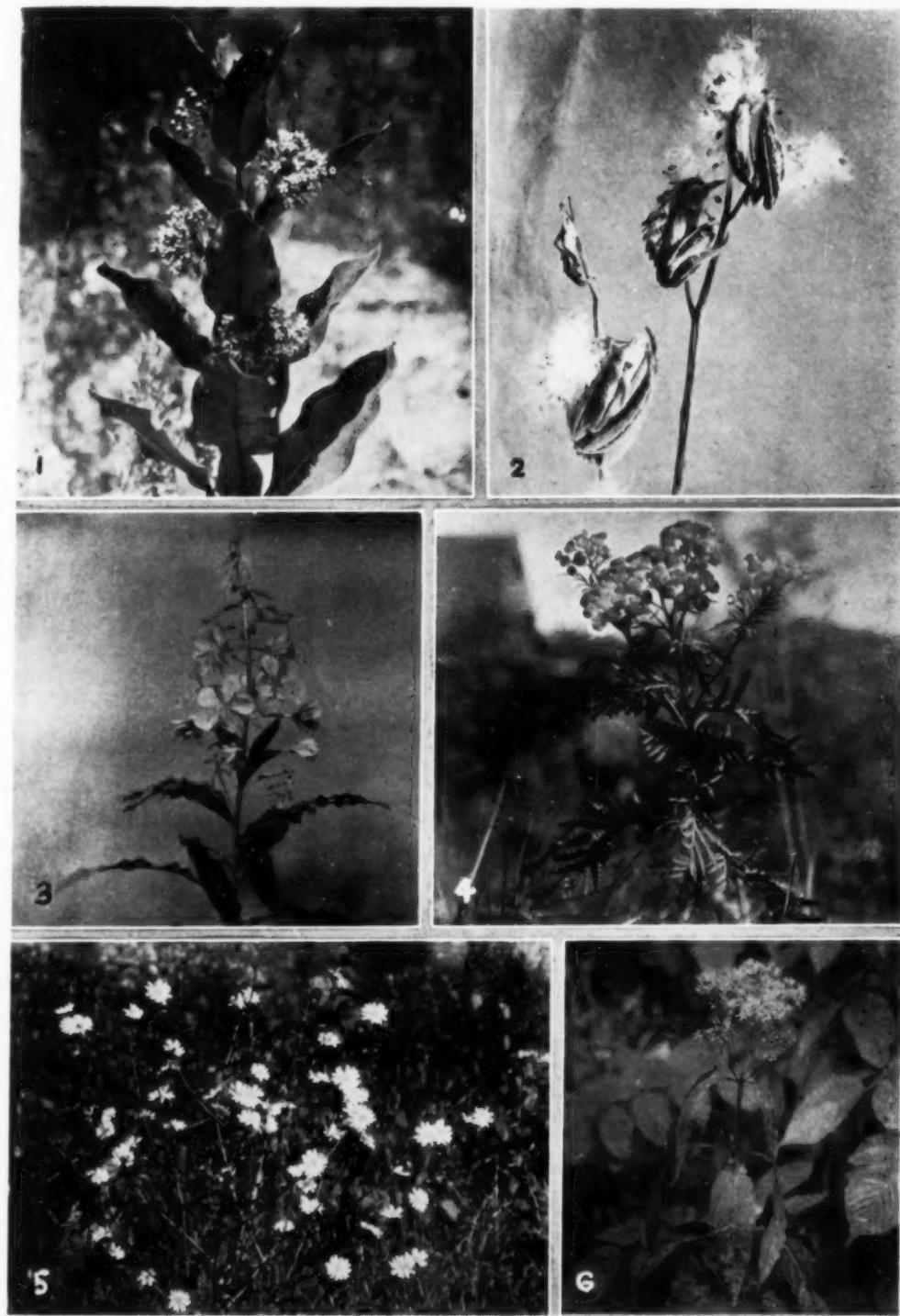


PLATE V.

1. Common Milkweed (*Asclepias syriaca*). 2. Milkweed in seed. 3. Fireweed (*Epilobium angustifolium*). 4. Tansy (*Tanacetum vulgare*). 5. Chicory (*Cichorium Intybus*). 6. Joe-Pye Weed (*Eupatorium purpureum*).

the top, white striped and shading to white at the base of the bottle. Occasionally it is all white. (See plate IV) Gentius, King of Illyria, is credited by Pliny with having discovered the medicinal virtues of the plant and thus given a name to the family. House-keepers have reason to be grateful to the Gentians for their yield of peetin—a very present help in time of trouble when fruit refuses to "jell".

Tansy, or Bitter Buttons (*Tanacetum vulgare*) is an immigrant well-known on our roadsides. Its dull orange-yellow flat-topped clusters of bloom make a brave show from July to September. The deep green ornamental leaves are strongly scented and with their bitter taste are the foundation of many recipes in old cook books. Nearly three-and-a-half centuries ago John Gerard published a somewhat famous book of herbal medicines and speaks of cakes made with eggs, and leaves of Tansies which, he says, "be pleasant in taste and good for the stomacha." Samuel Pepys, in his famous diary, 260 years ago, tells of a "pretty dinner" he served for some guests in which "a Tansy" was one of the items on the menu. About the same time a book published on the art of "making up" states that Tansy leaves laid to soak in buttermilk for nine days "maketh the complexion very fair." Tansy tea is still an old folk's popular medicine and Tansy cakes and puddings, are, it is said, still connected with some curious customs in certain parts of England at Easter time. These celebrations originally represented the use of bitter herbs at the Paschal Feast.

Chicory, Succory, or Blue Sailors (*Cichorium Intybus*) a common weed prominent on almost every waste patch

(With the exception of the Pasque Flower the illustrations in this article are from photographs by the author.)

Erratum:—In the title of the colour plate of the Partridge Berry, the Latin name should read *Mitchella repens*.



Fritillary Butterflies on Joe-Pye Weed.

from July to October, is of a beautiful violet-blue. Open only during sunshine the sensitive flowers like rosettes are spaced along the stiff, stout stem. No food lends itself more readily to adulteration than coffee, and the dried root of Chicory, ground, easily blends with it, and in the estimation of some even adds an agreeable flavour.

Joe-Pye Weed (*Eupatorium purpureum*), to select the most romantic of its various popular names, is another of those flowers whose colour authorities have found difficult to name. "Pale pink or whitish" says Gray; "pink or purple, occasionally white" states Britton and Brown; "aesthetic-toned dull magenta-crimson" says Mathews; "deep flesh colour approaching to red" is Mrs. Traill's attempt; "pale or dull magenta or lavender pink" is Neltje Blanchan's. So much for our utterly inadequate colour language. The dense flower clusters of soft bloom at the apex of the tall stem stand well above the asters, golden-rods and other flowers and form attractive platforms for many butterflies. On low damp ground and at the borders of swamps Joe-Pye Weed is to be found in August and September. Fame and fortune came to an Indian medicine man of New England, named Joe Pye, who wrought cures of fevers with a decoction from this plant, and thus bequeathed it his name.

Nature in all her moods has a vision for everyone with eyes to see, a message for all who will list to hear. Of her influence Wordsworth wrote—

"With an eye made quiet by the power
Of harmony, and the deep power of
joy,
We see into the life of things."

MELBOURNE

By MARY CECIL ALLEN

LEANING over the rail of a ship approaching Melbourne through Port Phillip Bay, the visitor is following in the wake of the explorer Matthew Flinders who landed there in April, 1802. It is with very different expectations that the visitor of to-day arrives. All Flinders could say for the new territory was that it was "a useful but obscure port", adding the remark that "were a settlement made at Port Phillip, as doubtless there will be some time hereafter, the entrance could be easily distinguished and it would not be difficult to establish a friendly intercourse with the natives for they are acquainted with the use of firearms and desirous of possessing many of our conveniences."

As a matter of history, a boat party from a ship commanded by Lieutenant Murray had entered the bay, unknown to Flinders, in February of the same year; and, to go a little farther afield, in 1797 a small long-boat from the ship *Sydney Cove* was capsized on the coast of what is now the State of Victoria, the survivors making their way overland to the settlement of Botany Bay. It was not, however, until 1834 that the first settlement was made in Victoria, Edward Henty landing at Portland in November of that year. In May, 1835, John Batman began a settlement on the site of the present city of Melbourne. He was followed a few months later by John Pascoe Fawkner. When George Stewart, an officer from Sydney, was sent in that year to report on conditions in the new district, he found that there were already 177 persons of European origin. This was the first official census of what was then known as Port Phillip. The place was christened Melbourne on March 4, 1837.

To-day the contrast seems incredible. In less than a hundred years the infant settlement has expanded into a great city. One now enters a busy port with many ships at the wharves—here and there a picturesque sailing ship from the

Baltic—vessels loaded with softwood from Canada—great liners and not so well groomed tramp steamers—together with a little fleet of bay steamers carrying summer holiday makers to the seaside. Melbourne lies spread out before one over an area of ten square miles. Taking in the much larger area known as Greater Melbourne, the city has a population of over one million. The general flatness of the ground is emphasized at first sight. There are ranges of hills close by but the city itself—built on the river Yarra,—appears to stretch over level ground, the domes and spires of its churches and public buildings raising themselves above the general mass of houses. A drive through the wide streets discloses a multitude of parks and gardens. Everywhere the streets are bordered with trees and one catches glimpses of children's playgrounds, bowling greens, tennis courts and avenues of ornamental shrubs and flowers. St. Kilda Road extends for many miles leading away from the city across Prince's bridge over the Yarra, banked in the middle with gardens of flowering trees. Indeed the peculiar charm of Melbourne seems to lie in the contrast between its commercial and workaday atmosphere, its dignified buildings and busy shops—and the silent and constant invitation of leafy avenues and gardens by the river. Business men walk in to their work in the city from their homes in the near suburbs, through the Botanical Gardens. A few steps away from the noise of Collins Street the Treasury Gardens are a mass of shady plane trees and as one walks along the river the college crews are exercising late in the afternoon.

Until Canberra was created to be the Federal Capital the seat of government was in Melbourne and its imposing offices and public buildings and Federal Government House with its beautiful gardens were the setting for most of its working and social activities. The city is laid out rectangularly with wide



Port Phillip Bay, a name familiar in sailing ship narratives.

streets and pavements. In the parks and private gardens and also many of the suburbs one sees the native trees of Victoria including the red and pink flowering gum and the golden wattle, but an English note is struck in the city by the deciduous trees—elms, oaks and planes—which border the pavements and provide a sense of spring and winter which is absent from the Australian countryside. The rule of the road is to the left as in England and the traffic problem is now as serious as in any modern city of its size. The first motor car to appear in Melbourne is said to have been owned by an American and to have been seen in 1900, but at the present date the citizens of Melbourne considered per head are the fifth largest users of automobiles in the world. The familiar yellow taxi as well as numerous other varieties can be seen everywhere in the streets. Trolley cars until a short time ago were chiefly cable but are all now electrified and run far into the suburbs at a rate of four cents a section. Sight-seeing motor buses take trips into the mountains or around the bay and advertise a large number of tours to

different beauty spots and train services are extremely frequent with generally electrified suburban trains. The "Tait" car on trains first instituted by Sir Thomas Tait of Montreal formerly Victorian Commissioner for Railways provides the unusual experience of riding practically out of doors all the summer as the doors slide back on either side and admit air and sunshine and also a complete view of the landscape. The city supply of milk and dairy products is brought in daily by train from the country. Occasionally large market gardens can be seen from the train in the nearer suburbs and these used to be owned by Chinese but owing to the White Australia policy of strictly supervised immigration, these Chinese gardeners are not replaced by others when they stop working and labour is falling almost entirely into the hands of the British settler.

An unusual variety of architecture can be seen in the suburbs and it is very rare to notice groups or terraces of houses similarly designed. Many of the large private houses built by wealthy families in the early days of Melbourne



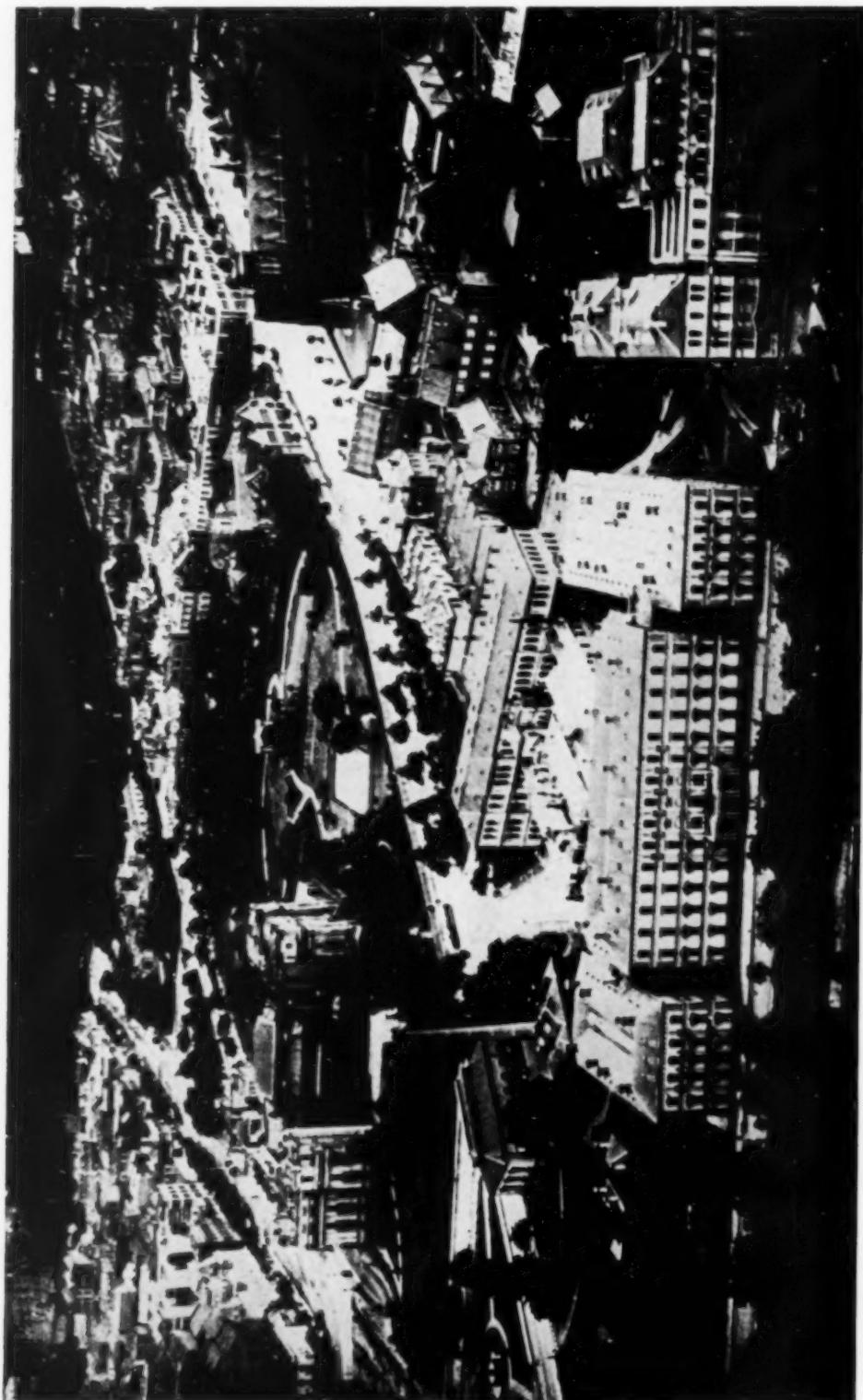
Collins Street, Melbourne's principal business thoroughfare. It will be noted that the traffic observes the English rule of the road—to the left.

are now being turned into apartments. Hotels are many and imposing and one or two are built on the American plan with steam heat and a bathroom to each room. There are also many clubs for men and for women—the chief women's clubs being the Alexandra, the Quamby, the Lyceum and the Business Women's Club. The University has the Princess Ida Club for Women and all the schools have clubs for past students. The chief men's clubs are the Melbourne, the Australian, the Savage and the Rotary.

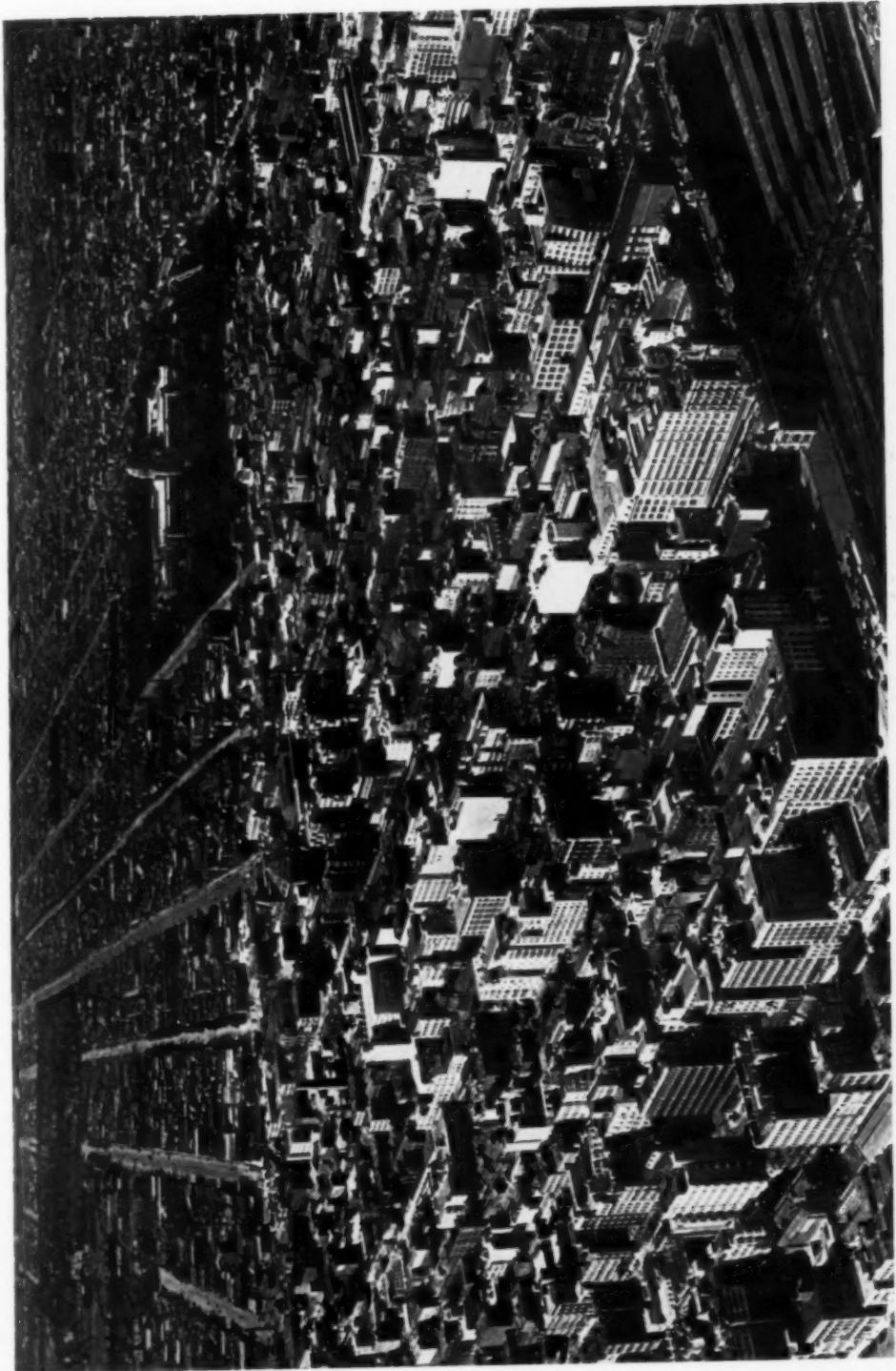
In the nearby suburb of Carlton, the University stands with its four large affiliated colleges upon 106 acres of ground. In 1880 the degrees of the Melbourne University were recognized by England as of equal rank with any in the United Kingdom. The colleges are denominational, representing the church of England, the Roman Catholic, Presbyterian and Methodist Churches and each have affiliated hostels for women students. The University provides extension lectures and summer courses and other institutions such as the Working Men's College and the Workers' Educational Union,—the latter

now numbering many thousands throughout Australia do the same. The Emily McPherson Training School for Domestic Science is an outstanding example of a modern institution.

As a city Melbourne is extremely musical, and instrumental and choral societies are almost too numerous to mention. There are two Conservatoriums of Music, one at the University and the other with a singing school trained by Dame Nellie Melba and her pupils. There are two Symphony Orchestras and several lesser orchestras and quartets, including a Children's Orchestra which give series of concerts throughout the winter and a few concerts in the summer. The two leading choral societies are the Philharmonic and The Liedertafel, the former giving concerts in conjunction with the University Symphony Orchestra. Melbourne has produced two great singers in Dame Nellie Melba and Florence Austral and is noted like the rest of Australia for the quality of its singing voices. The choir singing at the Anglican Cathedral of Saint Paul's is among the finest in the world. There are many bands, the



The Treasury Buildings are shown in this aerial view of a section of the city.



The heart of Melbourne, a city with a population of more than a million people. The city is noted for its broad symmetrical streets and dignified public and private buildings. Its many parks are famous for their all-year perfection of lawns, shrubs and flowers.



Fitzroy Gardens, typical of the many shady parks.

Returned Soldiers' Band being permanently employed by the City Council. Musicians' organizations include the Melbourne Music Club and the Victorian Musical Society.

Interest in education is widespread. The largest public schools for boys and for girls are denominational like the University Colleges and are built in wide grounds with playing fields in the near suburbs around the city. Some of the larger private schools for girls are showing a tendency to move farther away from town and build on Mount Macedon—an hour away from Melbourne by train—or at the seaside.

State school education is free—and compulsory in the sense that all children must be proved to be educated up to a certain standard and such education is secular except for religious instruction being allowed by other than state school

teachers on one or two days a week for children whose parents desire it. Church societies are very active in promoting educational facilities and it was owing to the efforts of the Mothers' Union of Victoria, a large and influential body, that permission to give religious instruction in State Schools was finally granted. Gardening is taught in nearly all State Schools; most schools have their own garden and there is a Victorian State Schools' Horticultural Society to assist teachers in obtaining the best seeds, ornamental trees and flowering shrubs. Two of the school holidays, Bird Day and Arbour Day are specially set aside for lessons on the protection of native birds and their eggs and for tree planting. In 1921 when Melbourne "adopted" the French town of Villers-Bretonneux, the ruined school house was

rebuilt largely through the subscriptions of State School children.

Melbourne has many imposing buildings among them being The Exhibition Building, built in 1880 to house the first great exhibition sent out from England,—The Town Hall seating 2800 people,—The Treasury Buildings with its long facade at the end of one of the principal streets — and The Public Library which lifts its dome behind the National Gallery. The Reading Room of the Library is under the dome and approached by marble staircases leading from the ethnological collections of the National Gallery. In the Library are preserved the earliest prints, drawings and paintings of the colony, together with diaries and records made by the first settlers—the pictures including representations of kangaroo hunts, the gold diggings and the social gatherings

in tall hats and crinolines of the early sixties. The Felton Bequest to the National Gallery provides an income of £28,000 (140,000 dollars) for the purchase of art and has already made it one of the most interesting galleries in the southern hemisphere. Australian art is well represented and there is a fine collection of native weapons, dancing headdresses and weaving, both from Australia and the near islands. Free guide lectures are given regularly to illustrate the different collections. For some time there was a movement to change the site of the Gallery and Museums and to place them among gardens further away from the city, but their use as a great city institution has been so emphasized by the constant crowds which attend at all hours of the day that so far it remains a very real part of the city life and only five minutes away from the centre of the town.

The Melbourne Botanical Gardens are considered to be among the three most beautiful in the world, the other two being those of Java and Rio de Janeiro. They occupy 102 acres of undulating ground. This last feature giving great picturesqueness to the lawns sloping down to lakes of waterlilies, the high winding walks and magnificent trees and flowers. Botanical specimens from all over the world are cultivated both in greenhouses and out of doors, chiefly the latter owing to the temperature climate. The native section devoted to Australian flora is interesting to visitors owing to its difference from that of any other country. Another park and garden associated with these, lead down to the river and once a year the regatta of



In common with other large cities, the accommodation of motor traffic is becoming a problem. A view of Russell street.

Henley on the Yarra brings crowds through the flower-bordered walks to see the decorated house boats and the racing of competing crews.

Another yearly festival is "Melbourne Cup Week" early in November at the beginning of summer when the city is thronged not only with interstate tourists but with visitors from all parts of the world arriving for the races and to take part in the race-week balls and entertainments. Flemington race course is a blaze of flowerbeds and climbing roses at that time and Melbourne becomes a veritable garden. During the summer, which lasts from December to March, there is a general exodus to the country and seaside. The bay steamers are crowded with week-end holiday makers and the beaches near the city



Newman College, one of the four denominational colleges which are included in Melbourne University.



Melbourne claims that it possesses the finest racecourse in the world—that at Flemington, a suburb of Victoria's capital city, where the Melbourne Cup is run. The picture shows the course on Cup Day, when the attendance runs up to 120,000.



The Exhibition Building, built in 1880 to house the first great exhibition sent out from England.



Victoria's capital is a city of beautiful gardens. This is a typical home.



St. Kilda Road is to Australia what the Champs Elysées is to France. On each side and down the centre are rows of great spreading trees, between them green lawns and beds of flowers. The street is the main southern approach to the city. The spires of St. Paul's Cathedral are seen in the distance.

which are many and beautiful are only empty late at night. Although every summer brings about seven days of heat over 100° Fahrenheit in the shade and many more over 90° the air is so dry that the heat is not felt as much as if there were a relatively higher wet bulb. The winter climate is temperate and snow is not known in the city. Only when the Australian visits his mountain tops does he see snow for the first time.

With the coming of winter a work-a-day air settles on the town and a long programme of voluntary philanthropic activities is carried out by a large section of the public. Charitable and philanthropic work is exceptionally fully organized. Hospitals, asylums, schools for the blind, deaf, dumb or epileptic, vocational training for soldiers, the Repatriation Department which helps to place new settlers and returned soldiers on the land—free kindergartens and crèches. Baby health centres, children's charities such as the Cottage by the Sea, the Children's Aid Society

and many other organizations make a constant call upon the services of the public. There are six general hospitals in Melbourne accommodating 4,160 patients and many private hospitals and convalescent homes. The Bush Nursing Association provides nurses and equipment for distant pioneers and there are societies to welcome new settlers. The Y.M.C.A., the Y.W.C.A., the Boy Scouts and the Girl Scouts are strongly represented—also the Young Australian League a group of public school boys who travel as good will envoys to different parts of the world. Then there are the different societies for promoting British or international friendship such as the Victoria League, the English Speaking Union, the League of Nations and the United Empire Club.

During the winter also are the concert and theatrical seasons. A constant succession of celebrated singers and musicians from Europe give concerts, Italian, English or German Opera Companies give a season once in two or three years



The River Yarra showing St. Paul's Cathedral spires and the Railway Station dome.

while theatre successes from abroad are not more than a few months in arriving and being produced for the Melbourne public. Australian talent is continually called upon in every kind of production to provide either "stars" dancers or chorus. Art exhibitions take place all through the winter at the three largest galleries for contemporary art. These exhibitions are held chiefly by Australian artists and are extremely well supported by the public. There is a large picture-buying section of the community and the small private collection is a very noticeable feature in the houses of the professional classes—even more so than in the homes of the wealthy. The Australian Art Association, the Victorian Artists' Association and the Arts and Crafts Society hold annual exhibitions and provide opportunities for interstate exhibitions and social meetings between the members. Literary societies are also active—the Alliance Française, the Shakespeare and the Dickens Societies among them.

Since sport may be called a national passion in Australia no account would be complete without mention of the

football fields, the hockey grounds, the tennis courts of Melbourne and the facilities for indoor ice and roller skating. Test match visits between English and Australian cricketers are exchanged periodically between the two countries. Swimming is extremely popular and all sorts of contests are staged throughout the year both in city swimming pools and by the sea. Aviation is beginning to take a large place in public interest—mails are carried by air and passenger flights are frequent.

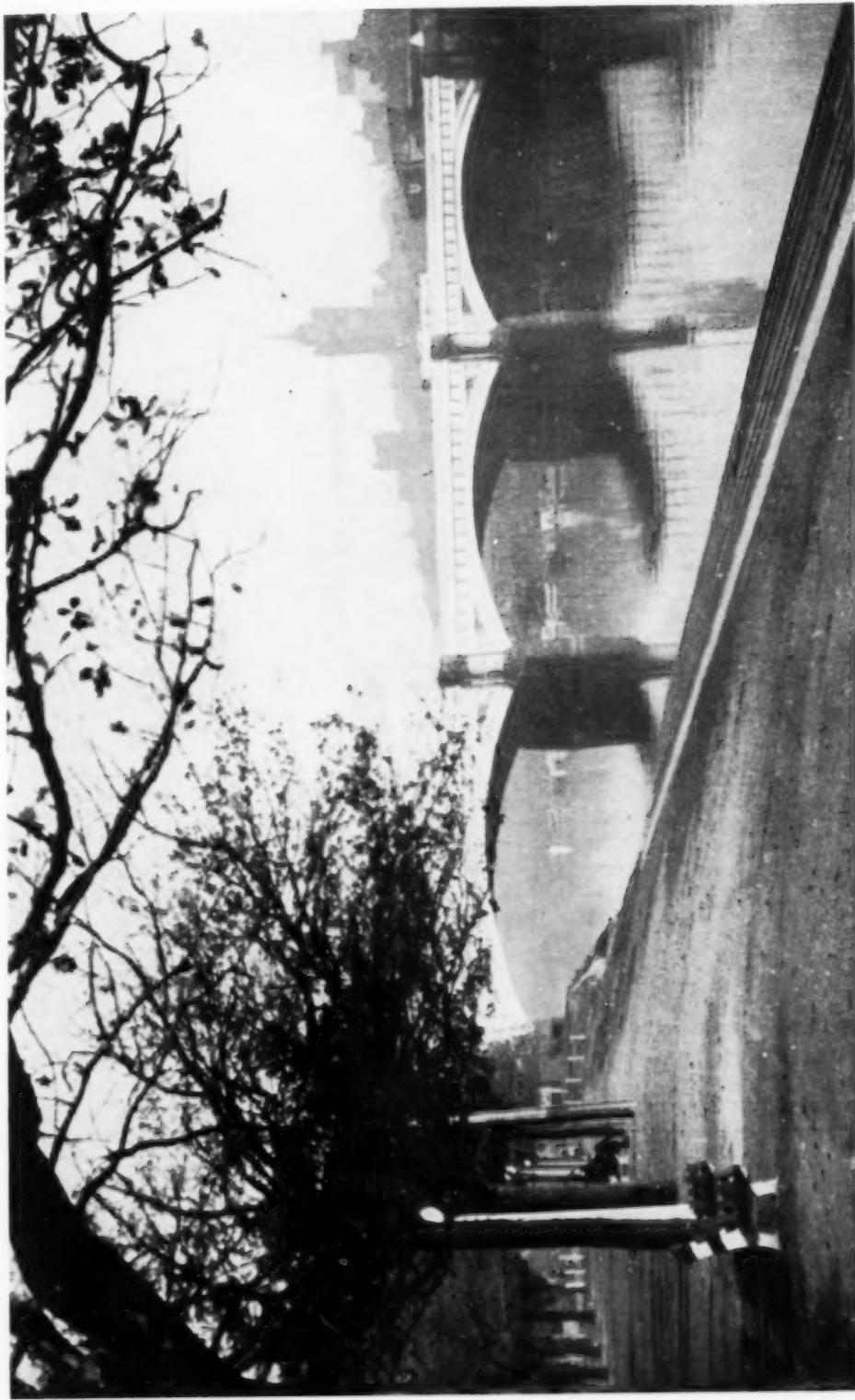
So far, the commercial aspect of Melbourne life has not been touched upon. Victoria was the first state to adopt a protective policy and as a result her manufactures are remarkably varied and well developed, ranging from the making of chocolates to that of pianos. There is a Chamber of Commerce and a Chamber of Manufactures, the first representing commerce generally and the second local manufactures. There are Commonwealth and State Savings Banks as well as numerous trading banks in the city. Travellers visiting Melbourne on business bring a constant contact with other parts of the world.



The countryside near Melbourne. A scene on the river Yarra.



Students of botany can find ample interest along Victorian bush tracks.



A scene reminiscent of the Thames in London. Princes Bridge, looking towards the city.



The largest schools are denominational, like the university colleges. The Church of England Grammar School.

The tremendous disadvantage of being four weeks by sea away from Europe is overcome to a certain extent by this contact as well as by an excellent cable service which owing to the difference in time between Europe and America is published in Melbourne almost simultaneously with England.

The six months journey in a sailing ship of those early colonizing days, the long wait for the "home" mail, the strange unhome-like surroundings have

been changed unbelievably in less than a hundred years. Kingsford-Smith and others have flown from England to Australia in about a week, European mails arrive every week and cities have been built where the European may feel himself at home. Yet the distance remains great enough for Australia to be still an Unknown Continent—still a voyage of discovery for the rest of the world.



James Mackintosh Bell

THE death of James Mackintosh Bell, at the comparatively early age of 56, removed one of the outstanding geologists and explorers of Canada, a man whose reputation was much more than national. Versatile, scholarly, genial; an indefatigable traveller, and what is more a traveller who garnered impressions of men and their environment wherever he wandered; gifted with a keen but kindly sense of humour, and a wide and tolerant understanding; he had won the respect and affection — how seldom both are given to the same man! — of many divers people in many divers places.

A graduate of Queen's University, Kingston and of Harvard, his scholarship and achievements had won for him the degrees of M.A.

Ph.D., and LL.D. He had been for many years a Fellow of the Royal Society of Canada, and also of the Royal Geographical Society and the Geological Society. He was one of the founders of the Canadian Geographical Society, and since its organization had filled the important office of Second Vice-President. He took the keenest possible interest in the welfare of the Society, and had a very high appreciation of the value of the services it was

destined to give to the cause of Geography, and the place it already filled in the life of the Dominion.

His war services as an officer of the 73rd. Battalion, C.E.F. and in the Military Intelligence Department in Russia were recognized by the award of the Order of the British Empire and mention in dispatches.

His restless but always intelligent curiosity took him into many out-of-the-way corners of the world. He knew his native land as few other Canadians could hope to know it. His professional interest in geology and mining, and his personal flair for discovery, had led him to many remote parts of the country. Long before Great Bear Lake was anything more than a name to all but a

handful of fur-traders, he and his friend Charles Camsell had explored the coasts of that vast inland sea, and the rivers that flowed into and out of it. He had travelled over many little-known parts of Siberia and Central Asia, and, because of his lively interest in the things that he saw, and also because of his unusual gift for languages, brought away with him far more than the average traveller could hope to gather.

It is a serious loss to human knowledge that



James Mackintosh Bell

his death has not only taken away a man of outstanding ability, wide knowledge, and breadth of view, but has also cut short his plans of putting into print the results of his travels and experience. The things that he had already published are a measure of what we have lost. In the Introduction to one of these books *Far Places* he has put so much of his own philosophy, his own ideals, and also the ideals that give life to the Canadian Geographical Society, that one cannot do better than quote them as a fitting tribute to James Mackintosh Bell from his associates, and an inspiration to those who remain behind:

"Wherever the traveller 'with a hungry heart' may roam, his life abounds in new experiences. Amid tribulations he has joy. Amid difficulties, consolations. The more deeply he studies the manifold phenomena of nature, the more clearly he recognizes man's relationship to them, the greater is his inward tranquillity. The more lands he visits, the more peoples among whom he mingles, the broader is his tolerance, the fuller his understanding of what has been accomplished by each in its evolutionary vicissitudes.

"In writing '*Far Places*' I confess to a definite object. Behind the descriptions of remote localities, the details of adventures, lurks the hope that the book may, in some small measure, encourage an interest in the science of geography. The word stirs memories of childhood days, of laborious learning of the names of countries, their capital cities and other important towns, their physical features, the principal commodities each produces. But geography is much more than that. Without a knowledge of it, how can we understand history, and the tangled sequence of political events? How can we visualise the economic development of the world from those dim ages of the past when man was a wild animal hunting his prey, much as the wolf does today, to this period of aeroplanes, of telegraphs, telephones and radios?

"The development of every country, large or small, is influenced by its physical features. The site of every great city has been similarly dictated. As time passes, its rise to power and its

decline into insignificance are ceaselessly conditioned by changing relationships to the natural environment. The plant and animal life of every part of the earth is controlled by climate. The living conditions, the physical appearance, even the character of races are affected by weather phenomena. A fertile region, productive under adequate rainfall, may desiccate and change to desert through a gradual decrease in precipitation. Then, agricultural settlements once flourishing, disappear, populations become nomadic or vanish altogether.

"A criticism often made of geography is that as a branch of learning it lacks precision, that it depends on information which belongs to other realms of thought, physiography, meteorology, geology, history, economics. The censure is not without foundation, but what science does not glean from other fields of knowledge? Geography describes the earth's surface as it is today, and accounts for the distribution of its activities and life. It is the background of human society, and of the diverse endeavors of mankind.

"An appreciation of geography is valuable to him who stays at home, and wishes to understand the why and wherefore of human events and the characters of the natural forms with which he is familiar. Even more desirable is it to him who journeys far afield. With a geographic perspective, every physical feature he sees, every climate he knows, every town he visits, every monument he studies, assumes a new appeal.

"My work as a geologist, my love of exploration, have led me to lands far and near. Greatly have I enjoyed these wanderings. Rich stores of recollection are mine. Golden memories enshrine camps beneath resinous pines by Canadian lakes, bivouacs on flowery slopes amid New Zealand mountains, resting places near coral shores of tropic islands. Precious remembrances stay with me of climbs over alpine pastures and across the fields of glistening snow, to crests among the Pyrenees, of journeys with Ojibway canoeemen on rivers racing northward to Hudson Bay. Always remains the lure to see new lands, to learn the ways of strange peoples."

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Editor's Note Book

Our Contributors

When William H. Brigden's article on "Canadian Wild Flowers" was published in the March, 1932 issue of the *Journal*, it was received with many favorable comments. In response to the popular interest in this subject, Mr. Brigden has completed the study, "More Canadian Wild Flowers", which is presented in this issue.

Philip H. Godsell of Winnipeg, is another former contributor to the *Journal* and is, indeed, familiar to the readers of many other publications. The stories of his experiences in the north are based on years of service as an officer of the Hudson's Bay Company.

Miss Allen, whose description of Melbourne is of empire interest, is a newcomer to the *Journal* as is also Mrs. Chambers of the Ceylon Tea Bureau, which recently opened offices in Canada.

How is a Place Discovered?

There have been from time to time many controversies, sometimes bitter, as to which of two or more explorers is entitled to the honour of having discovered a particular region. Such a discussion arose last year when it was proposed to put in Montreal a monument to John Cabot, the inscription on which—since modified—seemed to imply that he and not Jacques Cartier was the real discoverer of Canada. Who, then, discovered Canada? The answer inevitably depends upon what we mean by discovery. Does an explorer discover a country when he sees it from his ship? Or when he lands upon its shores? And does a mere landing on the outer coast constitute discovery; or must he penetrate into the interior; and if so, how far? It is evident that the fact of discovery is open to many interpretations; and in such an immense country as Canada, facing three oceans, in addition to a vast interior, it is extremely difficult to say who was the true dis-

coverer, or if we are justified in thinking of any one man as the discoverer. To the argument that at the time of its discovery Canada did not face on three oceans, it is sufficient to point out that at the time of its discovery there was no Canada. We would appear to be on safe ground, though even that is debatable, if we say that the discoverers of Canada were, among others, Erieson, Cabot, Cartier, Champlain, La Vérendrye, Hudson, Thompson, Mackenzie, Fraser, Cook, Vancouver, Franklin, Back, Rae, Ross and Parry.

Relativity in Geography

The Editor does not pretend to know much about the Einstein Theory, but has managed to grasp this idea—if the average height of man was two feet, a 2-foot man would excite no comment; and if the average height was ten feet, a 5-foot man would be a curiosity. Apply the same idea to elevations on the earth and living conditions there. Lord Stratheona's old home outside Winnipeg was known as Silver Heights, although its site was practically indistinguishable from the surrounding prairie. Some years ago a gentleman from Denver happened to visit Mount Washington. A sweet young thing said to him, "O, Mr. Smith, have you climbed Mount Washington?" Mr. Smith let his eyes roam about the horizon, and enquired, "Where's Mount Washington?" "Why, there, of course," she replied, pointing to that very respectable elevation. Mr. Smith looked the mountain up and down, then remarked contemptuously as he turned away, "Hell! In Colorado we'd call that a pimple." You find many people, in various parts of the world, living very contentedly—or shall we say more or less contentedly—at elevations below sea level. Also the good people of Tibet manage to carry on the common occupations of mankind, cheerfully enough, at an elevation that averages considerably more than the summits of the Canadian Rockies.



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Travel - Adventure - Recreation**Sam Slick on Halifax**

Thomas Chandler Haliburton had his own way of stinging with ridicule the self-sufficiency that he found in many Maritime communities a hundred years ago. Here he puts into the mouth of his famous character Sam Slick his own opinion of Halifax.

"It's well enough in itself" says Sam Slick, "though no great shakes neither, a few sizeable houses, with a proper sight of small ones, like half a dozen old hens with their broods of young chickens; but the people, the strange critters, they are all asleep. They walk in their sleep, and talk in their sleep, and what they say one day they forget the next, they say they were dreamin'. Halifax reminds me of a Russian officer I once seen in Warsaw; he had lost both arms in battle and had to be fed with a spoon by his neighbours. Halifax is fed by the outports, and they begin to have enough to do to feed themselves;—it must learn to live without 'em. The only thing that will either make or save Halifax is a railroad across the country to Bay of Fundy. It will do to talk of, says one. You'll see it some day, says another. Yes, says a third, it will come, but we are too young yet."

Great Bear Lake

Commenting on a statement made by Mr Narraway in his lecture to the members of the Canadian Geographical Society at the annual meeting to the effect that one of the pilots of Canadian Airways had flown from Great Bear Lake to Edmonton in seven hours, the President of the Society, Dr Charles Camsell, remarked ruefully that it had taken the late Dr Mackintosh Bell and himself the better part of a season to make the same trip. That was some years ago, when Dr Camsell and Dr Bell were carrying out geological and geographical work for the government. By the way, one of the rivers flowing into Great Bear Lake, on which silver was found last

year, bears the name of the President. The area of Great Bear Lake is approximately 11,800 square miles. It is therefore the largest of the lakes entirely in Canada, and ranks next to Huron among the lakes of the continent. The name Great Bear seems to have been first applied to the river that empties the waters of the lake into the Mackenzie, and afterwards to the lake. The lake was discovered by traders of the North West Company and a trading post was established there about 1800. Fort Franklin was built on the shores of the lake in 1825, and the explorer Franklin wintered there with Richardson and Baeck. Later explorers, Dease and Simpson, built Fort Confidence at the eastern end of Dease Bay in 1873. To-day Great Bear Lake has become the scene of mining developments, the importance of which to the future welfare and wealth of Canada it would be difficult to exaggerate.

Shelburne

The towns of no other Canadian province are more packed with historical and romantic interest than those of Nova Scotia. One of these is Shelburne, down near the foot of the peninsula. At the close of the Revolutionary War a large number of United Empire Loyalists settled here, and for a time Shelburne was one of the most important towns in the province, in fact for a short time the largest town in British North America. The soil, however, was not suited to agriculture, and many of the settlers drifted away to more favoured parts of Nova Scotia. The town enjoyed a second boom during the great days of the sailing ship, and many graceful clippers left its yards to sail out into the Seven Seas, and add to the reputation of Bluenose ships and crews. Shelburne still builds yachts and fishing craft, and fishing and lumbering give employment to its people. Visitors from other Provinces and abroad find enjoyment in the picturesque surroundings of Shel-



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burne, the rugged coast, the atmosphere of the sea, and the old-time simplicity of its life. Ox-carts still creak along the road, and excellent trout fishing may be had on the lakes and streams, while the more adventurous may trawl offshore for the giant tuna and harpoon the swordfish. A canoe, with a few portages, takes one into the heart of the Tobeatic Game Preserve, where it is quite practicable to shoot moose and deer with a camera, though not with a gun.

Royalty Down Below

Pictures of Prince George climbing Table Mountain with General Smuts remind us that that popular son of the King is to visit Australia in October in connection with the Melbourne Centenary. From there he is to go to New Zealand. One of the many interesting events in which His Royal Highness will take part will be the dedication of a unique memorial to Captain Cook at Melbourne. The boyhood home of the great navigator, a little stone cottage at Great Ayton, Yorkshire, has been carefully taken down and packed in boxes for transportation to Australia, where it will be as carefully reconstructed and maintained as a memorial to the man who first saw the coast of what is now Victoria in 1770. As a graceful exchange the Government of Victoria is to erect on the land where the cottage formerly stood a duplicate of the obelisk at Cape Everard that marks the site of his landfall, and this will be built of blocks of granite from Cape Everard.

Belcher Islands

One of the most singular in form of Canadian islands is the group that lies off the east coast of Hudson Bay, and known as Belcher Islands. They lie parallel to one another in a north and south direction, and consist of a series of long peninsulas with intervening channels and bays and a number of fresh water lakes. One of these lakes is 65 miles long. The islands contain large bodies of iron ore, and fox, seal, walrus, porpoise and occasional polar bears are found there. The larger lakes furnish Arctic salmon and whitefish and are the breeding grounds for great numbers of eider duck, black duck and geese.

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Amongst the New Books

Escape. A Book of Escapes of all Kinds. Arranged and Edited by F. Yeats-Brown. Toronto: Macmillan Company of Canada. 1933. \$2.50.

In this 'omnibus' of 900-odd pages Major Yeats-Brown has brought together, from many sources, an extraordinarily varied collection of stories of Escapes, under such alluring titles as A Master Spy Escapes from Russia, Tunnelling to Freedom, Crashes and Cocktails, Disaster on the Matterhorn, A Lady's Escape from Gwalior, Louis Napoleon Walks out of Prison, The Flying Frenchman, Jack Sheppard Laughs at Locksmiths, Casanova's Escape from the Inquisition, Adventures in the Great Plague, Benvenuto Cellini and the Mad Constable of St. Angelo, The Hejira from the Holy City. These true tales are preceded by an Introduction in which the editor collects odds and ends of what he calls Dangerous Living, ranging from John Wesley's escape from runaway horses, to Lafayette's failure to escape from Olmutz.

* * *

The Yellow Briar. By Patrick Slater. Toronto: Thomas Allen. 1934. \$2.

In these days when a thousand books are made for one that really justifies its making, it is refreshing to come across such an authentic bit of human life and experience as this autobiography of the late Patrick Slater. It was back in the forties of the last century that Patrick Slater came out from Ireland to Canada. He knew Toronto in the days of the Family Compact, when conditions were so incredibly different from those of to-day that it is difficult to believe that the man who knew them died only a few short years ago; when crowds of country folk from far and near flocked into town to see a double hanging; when George Brown flogged his political opponents in the columns of the *Globe*; when carters raced to a fire with punc-holes of water to win the municipal grant of £3 for the first to arrive; when fugitive slaves escaped to Canada by the underground route. But what gives peculiar value to this narrative of long-

forgotten days is the manner in which it is written. Some men can tell a good story; a few can write a good story; but the man who can write a story as he tells it is rare indeed. Mr Slater's manner is simple, racy and marked by that humour that often gets so close to the borderland of tears. At times he is moved to such exquisite things as this: "And when the rain thrush flutes his neat little tune to the clearing sky, I hear again the soft, lovable brogue of that poor little forgotten black Irish mother of mine."

This is his farewell to his readers: "Here I sit, a garrulous old fellow whose trials and troubles are all over, chirping away and as happy making noises for my own amusement as any cricket in a crack by a glowing chimney corner. Sure an Irishman gets a lot of fun watching the world go by. But my warmth comes from memories of the long ago. So I ask you to fill glasses with the moonshine of the hills where speckled trout still lurk in limpid streams:

Here's to the worn-out hearts of those who saw a nation built, and to the proud, fun-loving young hearts that have it in their keeping."

This book is much more than a contribution to our knowledge of old times in Ontario. It is a revelation of what Canadians were, what they did, what they thought, seventy or eighty years ago. And it is, what so few books are, literature in the truest sense of the word.

* * *

Etudes Economiques. Vol. III. Montreal: Librairie Beauchemin. 1933. \$2.65.

The 12 theses presented to the Ecole des Hautes Etudes Commerciales of Montreal, and published in this substantial volume, reflect credit upon the students who prepared them and also upon the school whose thorough training made them possible. Of the dozen studies 10 are in French and the other two in English. They deal with such important questions—almost equally interesting to the student of political economy and to one concerned with economic geography—as water power and other developments on the St. Maurice, the tariff policy of the Railway Board, mixed farming in Western Canada, commercial relations between Poland and Canada, the gold industry in Canada, and so forth.



Winning his Feathers . . .

Eagle feathers were the Indian's supreme badge of honour, won by deeds of bravery, endurance or service to his tribe. They were valued only when plucked from the tail of a live eagle. Varying degrees of valour were marked by the angle at which the feather was worn in the hair. On the plains twelve black-tipped feathers were considered equal in value to a pony.

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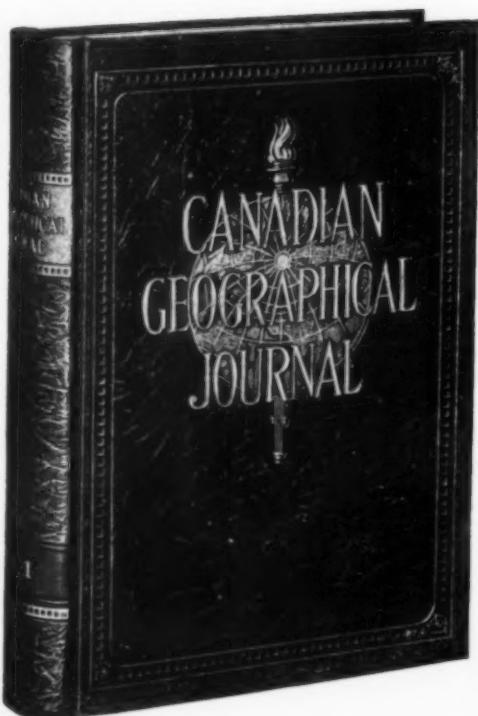
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